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ORIGINAL ARTICLES.

THE ORIGIN AND CAUSES OF PYREXIA IN TYPHOID FEVER.

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The factor of high temperature with its concomitants of tissue waste, perverted metabolism, and cell inertia, is very generally conceded to furnish the leading indications for treatment in typhoid fever. Indeed antipyresis in some form or other is now regarded as absolutely essential to a rational and successful management of this disorder.

This is substantiated by the fact that a large proportion of modern methods employed recognize and seek to modify and combat this particular symptom. And it may be added, that experience shows that they are all severally successful *pari passu* with their capacity to control harmlessly this most formidable feature. Such being true it is highly proper that we should possess a real and definite knowledge of the origin and causes of the pyrexia in typhoid, in order that they may be attacked and met in an intelligent manner. To accomplish this, it will be necessary to transform some of the current teachings concerning the pathologic conditions ordinarily associated with this disease, and to break away from some misconceptions in regard to what has hitherto been accepted as part of its true clinical history.

With this end in view, we may separate the lesions into two groups, namely, the essential, and the accessory or accidental, lesions. In the first division, we place changes arising from the local action of the bacilli and their concentrated toxins upon the glands and lymphatic structures of the abdomen, together with the more remote effects of the same upon the body,

temperature and general nutrition. These effects are the direct result of the bacilli and their products, and constitute the only specific or essential lesions in typhoid fever. In the second group, we have the accessory or accidental lesions, some of which are sometimes present, sometimes absent, sometimes this one and sometimes that one, depending upon the treatment pursued, the patient, the stage of the disease, and other contingencies. Prominent among the lesions of this latter class stands gastro intestinal catarrh and its associated phenomena of perverted digestive and assimilative functions, leading in turn to putrefactive and fermentative changes, and as a final result the absorption of various toxic substances into the general circulation, causing disturbances of temperature, cell destruction, innervation and symptoms of profound constitutional character. As is obvious these latter changes do not emanate from the specific lesions already enumerated, but are accessory and independent factors in the complex result produced in the organism.

The same fact applies to another class of lesions which have long been held to be a part of the true pathology of this disease. I allude to the ulceration that follows in the second and third week and causes such serious symptoms. These glands ulcerate and break down, causing hemorrhage and septic fever, not as a result of the effect of the specific bacilli *per se*, but from the fact that their vitality is lowered by the presence of the latter and the pus-producing cocci are enabled to engraft themselves

upon a tissue which, before, would have resisted them successfully. These lesions of the second class are in no way peculiar to typhoid fever, nor do they constitute essential factors in its true clinical phenomena, but, to the contrary, they are associated with a number of acute febrile infectious diseases, which lower resistance and invite the encroachment of new factors in the form of accidental lesions. The only constant and essential lesion of typhoid fever is the infiltrated non-suppurative inflammation of the solitary and agminated glands of the intestines, associated with a febrile reaction of 100° F., and slight disturbances of the general nutrition of the organism. Everything else, in the light of what has been written, may be regarded as non-specific in character, not peculiar to typhoid fever, but associated phenomena referable to other causes.

Interpreted from this standpoint the question of treatment resolves itself into that of ascertaining exactly what importance, and how much value is to be attached to each of these several factors as co-operants in the complex result of excessive heat. In the present state of our knowledge it is impossible to say absolutely, how much is attributable to each. Judging, however, from the marked and rapid reduction of temperature that usually follows the exhibition of substances capable of evacuating the contents of the bowel and arresting putrefactive changes transpiring therein, we are warranted in concluding that the larger proportion of the pyrexia is directly due to these causes and not as is generally supposed, to the product of the specific lesions or the bacilli and the pathologic changes in the glands. In an experience with sixty cases of typhoid fever I have put to test the principles here announced and I have demonstrated that they are true beyond peradventure of a doubt.

Starting with the idea that the pyrexia is the product of a mixed infection, complex in character and largely the result of fermentation and putrefaction in the intestinal canal, I have used agents qualified to arrest decomposition and keep the bowel comparatively empty. By doing this the temperature has been kept exceedingly low and dangerous symptoms entirely avoided. My plan has been to administer from the beginning of the attack, the sixth of a grain of calomel com-

bined with sugar and soda, every hour until the bowel has been freely evacuated. This is repeated every day or every other day during the entire illness unless contraindications supervene, such as excessive purging, prostration and nausea—which I may add are very rare—when the drug is stopped for a while. When calomel is used in this way, my experience shows that the functions of the gastro-intestinal tract are speedily resumed and kept in a physiological condition, the tongue cleans off and becomes moist, tympany is absent, the fever declines at once and remains low, scarcely ever beyond 102° F., and the patient presents an array of symptoms which every way indicate that he is better. By pursuing this method the fever rarely exceeded 102° F., and when it did, it was invariably found to be the result of retained and decomposed food substances, and speedily declined upon their removal by the medicine. When calomel is used in this way there is little or no danger from hyper-catharsis or salivation, nor does it induce asthenic conditions. To the contrary, it is a general cell stimulant, promotes glandular action and opens up the emunctories in the best possible manner, and in this way eliminates the morbid substances from the internal tissues as well as from the canal.

As a remedy for the routine treatment of typhoid fever, supplemented by such other agencies as the individuality of each case may demand when the accessory lesions predominate, calomel will demonstrate its utility beyond question. That it will prevent or lessen a considerable part of the pyrexia that usually accompanies this disease, unless treated by direct antipyretics which do not reach the real seat and cause of the former, I am quite certain. By the use of the calomel we not only avoid the high temperature, conserve the vital resistance of the organism and bring about a speedy convalescence, but the appetite and digestion remain good, the stupor and delirium of toxæmia are altogether absent, and the ulceration, hemorrhage and perforation so much dreaded in this disease do not occur and the most potent causes of mortality are removed.

In a recent paper by W. B. Thistle, of Toronto, Canada (*N. Y. Med. Record*, Vol. 45, No. 10), is given the results of this eliminative and antiseptic treatment

in forty consecutive cases of typhoid fever. There were no deaths or unfavorable symptoms in any case. Average attainment of normal temperature on the twelfth day and entrance on convalescence. No hemorrhage. No perforation. Tympanites was present in only one case, but quickly disappeared. In fifteen of his

cases the characteristic rash occurred showing the diagnosis to be correct.

For a safe, ancient and successful remedy, controlling and preventing as it does the most serious symptoms in this disease, I can commend calomel in the manner set forth above, as the most efficient of remedies in typhoid fever.

A CASE OF TYPHOID FEVER, WITH SEVERAL RELAPSES.

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This case of typhoid fever was to me exceptional, because of its four periods of fever within eight weeks, and its many complications, some co-existing at the same time, and others arising at several different times.

The case was attended at its beginning (during my absence from the city), by Dr. Annette Richard, who invited me to take charge of it when I returned, as it was in a family where I had had the medical care for several years.

July 30, Dr. Richards was called to Mrs. P., who was forty-nine years of age, and had been a very healthy woman up to about five months previous to her present illness, when she had the then prevailing epidemic, influenza, and a diarrhoea which threatened to become chronic, and from the effects of which she had hardly recovered, although she had called herself well during the previous summer.

Dr. Richards found her with a general *malaise* and an intense headache, backache, pain in the left side and abdomen. The doctor learned that she had been ill a week, with all the present symptoms. The patient, at this time, had an afternoon temperature of 103° F., and was at the same time so chilly as to require artificial heat applied to the extremities during the height of the temperature. The morning's highest temperature was a degree less than that of the afternoon. She had nausea; the renal secretion was dark and thick, though of normal quantity.

The fever followed about the usual typhoid type, until it had run about two weeks from its commencement. The highest afternoon temperature of this period was 103.5° F. There were no other

peculiar symptoms, during this period, than that the height of chill was not fully developed, until the thermometer and patient's face indicated that the highest thermal point had been reached for the day.

August 10. The patient was considered convalescent; temperature and pulse remaining normal two days, then suddenly rising with the on-coming chills.

On the 12th, the temperature rose to 103° F.; the next day it was slightly less, and on the 14th was normal. Again on the 17th it came up suddenly to 104° F., with chills, nausea, and the other symptoms mentioned, and on the 19th it was again normal, and remained so until the 26th. On the 20th a large amount of sloughs passed with the stool twice, and on the 22nd they passed with "greenish yellow matter," as reported on the nurse's record; also on the 24th, 26th and 28th.

On the 26th the fever arose to 103.2° F., and continued rising daily until it reached 105.5° F., and stood nearly as high the succeeding eight days, marking the time for defervescence by dropping to 103° F. for an hour only, morning and evening, the pulse ranging from 90 to 120 in its beats.

On September 4th I was requested to take charge of the case, which I did after consultation with Dr. Richards and Dr. John Bartlett.

I found her with a pulse of 104 and 120, and dicrotic; the temperature was from 103 to 105° F. There was peritonitis, great tenderness and some meteorism of abdomen; tremor, and nausea from catarrh of the head, pharyngitis and laryngitis; there was bronchitis, pain in the renal region, congestion of the pelvis, and ex-

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coriation of the urethra occurred, from which she suffered much.

The renal secretion, though dark, was of normal quantity and above; but this was scarcely noticed until after convalescence, when the record was again referred to. The bladder was washed with warm water and urethra treated. The spleen was so tender that she could scarcely bear the light pressure of bed-clothes, and when turned slightly upon the left side, she was glad to be immediately turned back, to relieve the pain in that side.

September 7th. Meteorism was so great, and gas accumulating so rapidly, that I ordered a syringe rectal tube inserted a short time, twice in the day, by which to remove the gas, as after laparotomy; the intestines were becoming so paralyzed that I looked for perforation, and thought it better to allow increased peristalsis, from the insertion of the tube, than that perforation should occur from such great distension. The mucous from the head and throat provoked vomiting, and milk, though containing one-fourth of its bulk of lime water, was instantly expelled in hard coagula. Constipation continued throughout the fever and was counteracted by enemata.

September 8th. The pulse was distinctly dicrotic; the tremor so great that the patient seemed about to lose form and fall apart, jelly-like. After my visit of the morning I was recalled at noon, as the patient was having "hemorrhage of the bowels," as the messenger reported. I found that a "pint of red blood had passed," as the nurse stated. Turpentine stupes, that the patient had worn under the poultices, were then changed for large compresses, steeped in vinegar and placed over the whole abdomen, and the vinegar of opium was the only medicine given by mouth as the stomach was so irritable, and this in minute quantities.

On the next day there were four stools of clear dark blood and clots only; on the third day there was one large stool of the same dark blood, without clot. About eight days after the hemorrhage began she had a rise in temperature from a sub-normal one to 101° F., followed by an unusually offensive stool, containing much dark greenish blood, after which the temperature fell to normal again. Evidently this was all one hemorrhage, as indicated by the different degrees of decomposed blood, and was

estimated to be not less than four pounds.

Subsequent to the first hemorrhage came the most profuse perspiration that I ever witnessed. In twelve hours after it began, the patient had the appearance of having been parboiled, and was dried and changed, as after a bath, several times in twenty-four hours. She also complained that she could hardly see. The failure of eyesight continued for several days. The temperature became sub-normal (the nurse said 94° F.) I took it when it scarcely reached 95°. The pulse was very weak, and but sixty beats per minute. The patient was really cold to the touch, as if all bodily heat had left her.

Numerous bottles of hot water were placed around her, and placed in her hands, thus adding warmth to keep up the circulation. It was difficult to keep up the heart's action, because of the rapidity with which the blood lost its serum, which, with the hemorrhage and perspiration combined must have equalled that in Asiatic cholera.

After the discharge of the last decomposed blood, slow but sure convalescence began. After I had ceased my daily visits, while calling one day, the patient complained that she had no rest day or night, because of frequent micturition, and that the renal secretion was so great. The next day I saw it measured for the twenty-four hours, and it was six quarts; it was dark and heavy with urates, but contained no albumin or sugar. I then referred to the nurse's record again, and saw that, from the commencement of the fever, the quantity had been variable, from twenty-five to forty-two ounces per day; the larger quantities later in the fever, and increasing in amount with convalescence. With a warmer atmosphere, and a dress of flannel, and a liberal use of the tincture ferri chloridi, well diluted, that it might not irritate the diseased mucous membranes, this diuresis was much lessened; after which she became affected with articular rheumatism "in all the joints of the body."

The last disease nearly disappeared in a month or so, and she now, seven months since her fever, is looking more natural and has gained flesh, though the renal secretion is yet more than normal, and she is occasionally slightly lame from the rheumatism.

I am forced to conclude that the rheumatism was the result of checking the elimination of the urates; but I cannot come to a conclusion in regard to the cause of the diuresis with so much uric acid during a typhoid fever.

In reviewing the case, I ask myself, as wiser physicians have done from time immemorial: "What is fever? What its cause and what its result on blood and tissue?" There was increased tissue change here, from bone to brain. There were four periods of fever; *one of two weeks*, followed by an interval of two days. The *second* and *third* were of two days each, with an interval between of two days, succeeded by an interval of eight days, and a fourth period of thirteen days, which was nearly one continuous paroxysm, her temperature falling to 103° F., but for about an hour at a time, twice daily.

The second and third short periods were of sudden rise of temperature and slow defervescence. The last, the fourth, beginning on the 26th, six days after the sloughs appeared, I attributed to the sloughing process; but then the question arose as to *why* it did not occur before?

Just previous to the hemorrhage, there was shallow breathing, great tremor, a di-crotic pulse, and such increasing peritonitis that I expected perforation. While thinking how it could be met (for I had never had it occur in my practice, and this was the first time I had anticipated it) I then realized how useless it would be to make a long enough abdominal incision to handle the probable length of intestine affected, to find one diminutive perforation hidden away in near proximity to the mesentery in a most difficult locality to discover.

The manipulation of the diseased bowel, possibly from the cæcum to the pyloric orifice of the stomach, might cause more perforations and the operator leave those thus made, from which the patient would succumb after the closure of the wound; for I have made examinations when there were several patches ulcerated to the peritoneal coverings.

After such a long burning fever, can we expect the blood to be plastic enough to allow new wounds to unite? In this case the hemorrhage was succeeded by the defervescence with the very profuse perspiration.

The fever was presumably the effect of

drinking unsterilized lake water; and there were two causes for its severity. One, the effect of the previous illness, and the other that her room had no direct rays of sunlight in it, as it was a north room, between two extensions, which subjected it to much shade and in this room she had slept since the May previous.

The influence of sunlight cannot be too highly prized during the treatment and convalescence of typhoid patients. It is reported that Buchner has come to the conclusion, after well-tried experiments, that the effect of the direct rays of sunlight upon bacteria, suspended in water, is to deprive them of vitality; among the variety experimented upon by him was the typhoid bacillus. He suggests that it is this power of the self-purification of running streams that purifies, instead of the action of the water.

If it be proved that Buchner's conclusions are correct, we can expose our patients to the sun's rays and get the same effect, modifying the disease, as there seems to be no remedy by which this so-called "self-limited disease" can in any way be cut short before it, in many instances, destroys the patient's life.

If bacteria are destroyed while in water, why may they not be in the capillaries of the surface of the human body, which though less transparent than a stream of water, is exposed in many square feet of surface in the cuticle, and carries so much blood, the cuticle being the largest organ in the body?

For many years the hygienic treatment of typhoid fever has been to place the patients in well-ventilated rooms, and I would say, in well-sunned rooms. If, during convalescence, a patient is able to be out of his or her room a portion of the day, open it to the sun's direct rays, however hot, during the absence, and always when the patient returns, if practicable.

Do all the present theories of typhoid fever coincide with what we know to be facts? Instance, the pulse is quickened by the influence of the fever, in some way, until the beats are doubled in their number for a given time. Does the theory that the blood is filled with the typhoid bacilli, harmonize with the fact that a foreign body, when introduced into the blood, even while circulating in the blood vessels, affects the formation of fibrin at the locality in which the circulation has been in-

terraptured? Instead of obstructing circulation, do not these bacilli quicken it? If these microscopical bodies have life, and are capable of movement, and are even so small as to pass the lumen of the minutest capillaries, or the walls of the same vessels, one effect should be to thicken this fluid, hence retard the circulation instead of hastening it.

What other influences are at work in this physiological process? The muscular force is weakening, so also the nervous. How are such bacteria eliminated from the system? When we say this fever was the effect of drinking unsterilized lake water, is it saying that the typhoid bacilli are in the water? Some authors assert that sewage alone will not cause this fever. If typhoid bacilli are now in the lake water, are we, in Chicago, to have a perpetual typhoid, or can we turn to Buchner's conclusion, and feel assured that the vitality

of those bacteria, now in the water, will eventually be destroyed, and with no new increase, when sewage containing them is turned away?

I have referred but little to treatment, other than exposing the patient to the sunlight, as there is so little to do but direct the care in nursing, which includes feeding, and keeping a patient quiet, both mentally and physically. Yet with every new case I find myself prescribing some one or more of the following remedies: The solution of chlorate of potash, carbolic acid, aromatic sulphuric acid, quinia sulphate, and I have used, in several cases, after the first of the second week, light poultices of simple flaxseed meal over the abdomen, hoping to modify the swelling of Peyer's glands and preserve them from ulcerating.

I have given the chlorate of potash in the beginning of the disease, and carbolic acid later.

COMMUNICATIONS.

THE ADULTERATION OF FOOD.*

H. W. WILEY.†

Barnum made a colossal fortune by acting on the principle that Americans like to be humbugged. To be cheated, fooled, bamboozled, cajoled, deceived, pettifogged, demagogued, hypnotized, manicured and chiropodized are privileges dear to us all. Woe be to that paternalism in government which shall attempt to deprive us of these inalienable rights. There is no point on which the average American is more sensitive in respect of legal restriction, than in those instances in which the law interposes to prevent him from making a fool of himself.

In regard to the character of what we eat and drink, we find the same unwillingness to be watched over and protected.

A few days ago in Chicago I went out to the Union Stock Yards to look at the process of meat inspection. From each carcass of pork intended for exportation is taken a sample of the flesh, and this is

carefully examined for trichinæ. "Do you often find diseased samples?" I asked. "Yes," said the attendant, "from one to two per cent. of all the samples examined is found infected." "Could I see a sample of that kind?" "Certainly. Has anyone a trichinosed sample in the microscope?" A pretty girl microscopist held up her hand. I looked and saw for myself the curled and coiled serpent ready for a strike. How I congratulated that lucky sarcophagous Teuton who had been saved from a horrid death by the fairy fingers and sure blue eyes of the trichinæ girl. "What do they do with these infected carcasses?" A shrug of the shoulders led me to believe that they were sent to soap factories, as they doubtless are, and this was followed by the expression: "But Americans don't eat raw pork," and I am led to suppose from this that trichinæ are really very good and nice when well broiled. Next morning, when I ordered ham for breakfast, I asked the waiter to have it out thin and broiled crisp. Even then when

* A lecture delivered before the Franklin Institute, and reported in the journal of that institution. Condensed.

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it was brought in I could not help thinking that it looked like a bretzel.

That distinguished juriconsult and patriot, Senator Paddock, of Nebraska, during the first session of the present Congress, after years of futile struggle, succeeded in having the Senate pass what is known as the Pure Food Bill, but it seems from the provisions of this bill that the Congress of the United States has only power to protect the foreigner, the disfranchised and the Indian not taxed. The provisions of the bill are confined to the Territories and the District of Columbia and to interstate commerce. Mild as are the penalties of the bill, allowing the citizens of any State to make a dessert and call it peas if they like, yet it has been left unpassed in the House of Representatives.

The Paddock Pure Food Bill, to summarize it briefly, has for its purpose the protection of commerce in food products and drugs between the several States, the District of Columbia, the Territories of the United States and foreign countries, and the Secretary of Agriculture is authorized to make the necessary rules for carrying out the objects of the bill. He is authorized to cause to be punished, through the proper courts, any one introducing in any State or Territory, or the District of Columbia, or from any foreign country any article of food or drugs which is adulterated or misbranded. The act says that the term "food" shall include all articles used for food or drink by man, whether simple, mixed or compound. In the case of food or drink, an article shall be deemed to be adulterated if any substance or substances has or have been mixed and packed with it so as to reduce or lower or injuriously affect its quality or strength, so that such product when offered for sale shall be calculated to deceive the purchaser; further, if it contain any inferior substance or substances substituted wholly or in part for the article, or if any valuable constituent of the article have been wholly or in part abstracted, or, if it be an imitation of, and sold under the specific name of, another article, or if it be mixed, colored, powdered or stained in a manner whereby any imperfection therein shall be concealed, or if it contain any added poisonous ingredient or any ingredient which may render such article injurious to the health of the per-

son consuming it. Further, the food is declared to be adulterated if it consist of the whole or any part of a diseased, filthy, decomposed or putrid animal or vegetable substance or any portion of an animal unfit for food, provided that an article of food shall not be considered adulterated if it be a mixture or compound sold under its own distinctive name, or an article labelled, branded or tagged so as to plainly indicate that it is a mixture, compound, combination or blend.

It will be seen by the above provisions that the bill is very far-reaching in its character, and it contains also the proper penalty for enforcing its operation. This bill passed the United States Senate on March 9, 1892.

This Pure Food Bill has received the unanimous support of nearly every agricultural organization in the United States. It has been opposed by a number of manufacturing establishments interested in the production of drugs and mixed foods, and also by those largely interested in the manufacture of substitutes for lard. If adopted it can at once be seen that it would do away with the necessity of the oleomargarine law, which is a special form of legislation, and like all special legislation, must be open to many objections.

As before stated, the national law, as indicated above, does not protect the citizen of any State against an adulterated food which is manufactured and sold within the State. Such police power must be left wholly to the several States. Many of the States already have laws on their statute books dealing with the subject of food adulteration. These laws, however, are for the most part, inoperative, and, not being based on a common plan, would naturally not secure, even when fully enforced, the same degree of protection in all States. What is needed for a complete legal protection of the people against adulterated foods is not only the enactment of the Paddock Pure Food Bill, but a similar enactment of similar scope and aim for each of the several States.

Among the various States which have laws on the subject may be mentioned Illinois, which has an act to prevent and punish the adulteration of articles of food, drink, and medicine, and the sale thereof when adulterated. There is also a special law preventing the adulteration of butter and cheese.

Iowa has a statute, entitled "an act to prevent deception in the manufacture and sale of imitation butter and cheese." One of the provisions of this law is that no keeper of a hotel, boarding-house, restaurant or other public place of entertainment shall knowingly place before any patron, for use as food, any imitation butter or imitation cheese unless the same be accompanied by a placard containing the name in English of such article printed in plain Roman type. Iowa also has a special law in regard to the adulteration of milk.

Maine has a food law to prevent the manufacture and sale of adulterated lard. Maine also has a general law on the adulteration of food and drinks.

Maryland has a statute to provide for the prevention of the adulteration of articles of food and drink and the sale thereof when adulterated or unwholesome. The enforcement of this law is placed largely in the hands of the State Board of Health.

Perhaps the best of the State laws concerning adulteration, are those of Massachusetts, the statutes of which provide "that no person shall within this Commonwealth, manufacture for sale, offer for sale, or sell, any drug or article of food which is adulterated within the meaning of this law." The law of Massachusetts is, in all essential particulars, that of the Paddock Pure Food Bill, of course, with such variations as are necessary in the enactment of a State law as compared with a Federal law. The law of Massachusetts is especially effective as regards the sale of adulterated milk and other adulterated food, and has a system of State inspection which has already reduced the percentage of adulteration of such articles to a very low figure. Monthly returns are made by the inspectors and analysts of foods and drugs. The report for the month of October, which is the latest one, contains the results of the inspection of milk, butter, cheese, olive oil, vinegar, spices, cream of tartar, molasses, maple sugar, maple syrup, honey, tea, coffee, confectionery and miscellaneous articles and drugs. The total number of samples examined was 610; the number found to conform to the legal standard was 428, and the number of samples varying from the legal standard—that is, adulterated within the meaning of the act, 182. The percentage of the adulteration was 29.8. The actual percentage of adultera-

tion is very much less than this, for it is only suspicious articles of food to which the attention of the Board is directed. Certain staple products, such as sugar, flour, and the various cereal products, are very rarely adulterated and receive but little inspection.

The case of Massachusetts is given somewhat at length on account of the excellence of the system of inspection. It shows what a State law can accomplish when wisely made and honestly enforced. In the one item of milk alone, it would be difficult to estimate the amount which has been saved to consumers by the strict enforcement of the law which requires the milk sold to contain a certain amount of total solids and fat.

Time remains only to mention the other States which have laws of some kind on the subject of adulteration. These States are Michigan, Minnesota (which has a series of good laws, both special and general), New Hampshire, New Jersey (which also has a good system of laws), New York, Ohio (also with a fairly good system), and Pennsylvania, which divides its law into three sections; the first relating to liquors, I suppose because this is the most important of the foods of this State; the second to food adulteration in general, and the third especially to dairy products. The weakness of the Pennsylvania law is not so much in the character of the provisions relating to the sale of foods as in the method of securing their enforcement. It does not provide for any system of inspection as does the law of Massachusetts; and no law relating to the adulteration of food is of any value whatever as a protection to the community unless a rigid system of constant inspection is provided for. The Pennsylvania law declares that the addition of water or of ice to milk is an adulteration, and any milk obtained from animals fed on distillery waste is declared to be impure and unwholesome. The removal of the cream is also declared an adulteration. The law prevents the manufacture of any substance provided to take the place of pure butter fat. This is not a restriction on the sale of an adulterated butter, but is a total prohibition of the manufacture and sale of any substitute for butter, even if it be sold under its own proper name.

Continuing the list of States with laws against the adulteration of food, we have

next Virginia and Wisconsin. The latter State has a very good law, which not only has a general provision but also enters into detail, especially in regard to dairy products, describing what shall be considered pure milk, or establishing a standard thereof, and stating how an adulteration of milk shall be proved, and how adulterated honey shall be marked. It contains penalties for the sale of unwholesome provisions and items in regard to the adulteration of foods and drugs, fraud in dairy manufactories, the form of label to be placed on dairy products, the strength of vinegar, etc.

It is hardly patent to this lecture to refer to foreign countries, but it may be said that in general the best laws in this country, national and federal, are based on the English food and drugs act, which is entitled an act to make better provision for the sale of food and drugs in a pure state. This became a law on the 11th of August, 1875.

The laws of the continental countries of Europe are also in the main effective, but contain such a multitude of minutiae as would render them very burdensome if enacted in this country. The English law has been in operation long enough to prove its efficiency, and under it hundreds of convictions for the sale of impure foods and drugs have been secured.

The Canadian law is essentially the same as that of England, although not so comprehensive.

The States not mentioned in the above list have, so far as could be ascertained, no laws relating to the adulteration of foods. At least they were not reported, although inquiries were sent to the Secretary of State of each State in the Union for information in regard to this matter.

Many municipalities also have local laws applying to the sale of adulterated foods. These laws are mostly of a specific nature and apply chiefly to dairy products. There would be no time here to even mention the cities having local laws on this subject, but there are now very few large cities in the country which do not at least have some kind of milk inspection.

Lying at the root of the question of food adulteration is the inquiry, what is meant by pure food? In the laws which have been enumerated, attempts have been made to legally decide what pure food is. Divested of all legal technicality, pure

food is a wholesome article of food or drink which is sold and consumed under its proper name. With each particular article there must be established a separate standard which a consensus of experience with a great number of known pure substances in that list shows to be required. For instance, take the case of milk, which is one of the most common articles of food and perhaps has been more generally adulterated than any other one. Analyses made all over the world on hundreds of thousands of samples of healthy cow's milk, have shown that the average content of solids therein is practically nearly thirteen per cent. A normal milk which falls below this standard shows some peculiarity in the animal giving it, either an incipient disease, deficient nutrition, or some idiosyncrasy. The milk of a herd of healthy animals will rarely fall below this standard. For this reason the standard of twelve and one-half per cent. of total solids in milk has been adopted in most countries having laws on the subject. In some cases the benefit of the doubt is given to the vendor, and a standard is fixed at twelve per cent. Now of these total solids a certain quantity in normal milk must be butter fat. It is not often that the butter fat of a perfectly healthy cow's milk falls below three per cent. of the total weight of the milk. It is much more apt to be three and one-half per cent.; hence, in fixing a standard of pure milk not only must the percentage of solids be given, namely, twelve or twelve and one-half per cent., as the case may be, but also the quantity of fat contained therein. This percentage varies in different laws from two and three-fourths to three and one-half per cent.

In a similar method the standard of purity of any other article of food must be determined by a careful examination of pure samples from all quarters and by then fixing a standard below which an article must be regarded as suspicious or adulterated.

As a distinction between a pure and an adulterated article take the cases of butter and oleomargarine. Pure butter, for instance, must be clean, sweet, wholesome and made of the fat of cow's milk and must contain only a certain proportion of water, curd and salt. Oleomargarine may be as sweet, clean and wholesome as the butter mentioned above, yet

when sold as butter it is clearly not pure food, but a spurious article.

Again, when the housewife buys lard it is supposed that the article she obtains has been made from the fat of healthy, freshly slaughtered hogs, carefully selected and cleaned and rendered in clean kettles or tanks. Cotton-seed oil and beef tallow, in respect of cleanliness, nutritive properties and the wholesomeness may equal and even excel pure lard, but the admixture of these article with hog's lard, or their sale as such without the knowledge of consumers, is clearly a fraud and an adulteration.

From a practical point of view, food adulteration may be considered under two general aspects, namely:

(1) Adulteration harmless to health and practised merely for cheapening the article or making it more attractive to the sight or taste.

(2) The addition to a food or drink of substances positively injurious to health.

Such substances are added chiefly as preservatives or for the purposes of coloring or decolorizing, or for the purpose of giving a particular flavor or taste. As a rule, they are added in minute quantities. In fact, the proportion of such substances is usually so small that a moderate or intermittent use of food so treated may not produce any great injury to the system. The continued use of such articles, however, must end in the impairment of the general health and sometimes in permanent injury.

In the latter class of adulterations must also be included those injurious substances naturally arising from the decay of wholesome food, or from the development of noxious substances in canned foods, or from the formation of poisonous salts by the action of the canned foods on the solder and tin of cans. Such materials, while not intentionally added, are, nevertheless, adulterations within the true scope and meaning of the term as applied to foods. In other words, it is not necessary to prove intent in order to establish the fact of adulteration. Any food which is not what it purports to be, which contains any unwholesome or poisonous ingredient, or which has any artificial coloring or facing material, is, to all intents and purposes, adulterated.

There is one legal exception to the above classification, namely, the use of annatto

in coloring butter. The national oleomargarine law, applied to the Territories, the District of Columbia and to interstate commerce, permits an artificially colored butter to be passed as genuine, and I believe most State laws referring to this subject contain the same provision. Indeed, in some States oleomargarine exposed for sale is required by law to be stained pink or some other color distinctive from yellow, and such a stain, while an actual adulteration, could not be classed as illegal.

There is still another form of fraud in food which may be defined as a negative adulteration. It consists in extracting from a food part of some valuable ingredient, and selling the residue as the genuine article. The sale of skimmed milk for whole milk, and of spent tea leaves for genuine leaves, are illustrations of this kind of fraud. Perhaps the best method of illustrating these various kinds of fraud and adulteration will be to call attention to some of the articles sophisticated in the ways described. No attempt, however, will be made to give a complete list of adulterated articles, for such a list would fill a volume. Attention, therefore, will be called only to the more important articles of food, and to those which are most commonly adulterated. In addition to this, examples will be given of some peculiar forms of adulteration which are little known to the public.

Milk.—Normal cow's milk should contain about three and one-half per cent. of butter fat, and should yield, on standing in a cool place for twenty-four hours, from ten to twenty per cent. by volume of cream. Until the establishment of milk inspection in cities, whole milk was something of a rarity. With careful inspection, such as obtains in Boston, the percentage of adulteration has been largely reduced.

An ingenious method of milk adulteration is sometimes practiced by the shrewd husbandman in such a way as to preserve his tender conscience from being seared. The cream in the cow's udder is naturally separated in part from the milk, unless the cow, just previous to milking, be subjected to violent exercise. The first milking, therefore, is less rich in butter fat, and it can be sent directly to the consumer. The last of the milking, called strippings, on the other hand, is nearly pure cream, and can be preserved

for butter-making. Butter fat, being lighter than whole milk, cannot be removed without increasing the density of the remainder above the normal. This density, however, can be reduced to the proper limit by the judicious addition of water. The testing of milk by the lactometer alone is therefore not a certain method of discriminating between a pure and an adulterated article.

Condensed milk is made by evaporating whole milk at a low temperature and in a high vacuum, in copper vessels, yet even at this low temperature some of the distinctive aroma of the milk is carried off by the escaping vapors. It therefore happens that even when evaporated milk is diluted to its original volume with water, it is never exactly itself again. Yet a pure condensed milk is not an adulterated article, for it is sold as condensed milk, and hence no fraud is practiced. When, on the contrary, as is often the case, sugar or salicylic acid is added in order more securely to preserve the condensed product, then a perfect case of adulteration is established. The manufacturer, however, may relieve himself of all responsibility, in so far as the addition of sugar is concerned, by stating on the label the amount added. In cases of deleterious preservatives, however, there would be no excuse. Their use in all cases should be prohibited.

Butter.—In regard to butter, the character of adulteration is well known. The use of oleomargarine as a butter substitute has been practiced for many years. The oleomargarine law, which imposes a tax of two cents a pound on the manufactured product, has not helped to restrict its use, but has rather increased it by giving to the consumer a guarantee of purity.

There can be no reasonable objection to the use of oleomargarine; it is clean, wholesome and digestible. When it is to be kept for a long time before use, as on ship board or in distant mining camps, it is preferable to butter, because it has but little tendency to become rancid.

Lard.—For similar reasons there can be no possible objection to the use of cotton-seed oil as a substitute for lard, or when mixed with lard, provided it be sold for what it is. Most of you are familiar with the great fight which was made against the use of the term "pure refined lard," which was the trade name of a mixture of lard stearine with cotton-

seed oil. "Pure refined lard," it was claimed, was a term which had been used so long to designate the mixed product that it had become in reality a trade-mark, and was therefore entitled to respect and protection. In the investigation which was held before the Congressional committees, it appeared that as to the trade the contention was quite justifiable. Goods sold under that name were understood to be mixed. When, however, the mixed product was offered to the consumer, it was purchased with the idea which the name naturally implied, that an extra fine quality of hog's lard was secured.

All attempts to pass a pure lard bill, modelled on the Oleomargarine Act, have heretofore failed in Congress, but several of the States have prohibited the sale of mixed lard, except when offered under the proper name. Manufacturers have, therefore, been gradually forced to abandon the term "refined lard" when applied to this commodity.

I am of the opinion that many persons would prefer a cooking fat largely of vegetable origin to a pure animal product. To me it seems that some State Legislatures have taken a reprehensible course in prohibiting the sale of vegetable oils as a substitute for lard for cooking. The grower of hogs undoubtedly has a right to contend against the sale of vegetable oils as hog fat, but when he pushes his claim still further and demands that the markets be closed to products as pure and nutritious as his own, he passes beyond the bounds of public support. Every person in the United States who prefers cotton oil to lard should be allowed to purchase his supplies without let or hindrance. Every grower and maker of pure lard has the right to an equally open market, from which every adulterated and mixed lard, offered as pure, should be rigidly excluded.

For a time, a few years ago, when a popular fad prevailed in favor of nitrogenous foods, the true value of fats to the digestive and nutritive economy was not well appreciated. At the present day this is all changed, and we know how to value a fat properly.

It is therefore a matter of no mean importance to protect the public in the use of olive oil instead of cotton oil, of cotton oil instead of lard, and lard instead of a mixture of beef and cotton oil stearine. It is true that cotton oil, when carefully re-

finer, is almost as good a salad dressing as olive oil, but it is very much cheaper, and those who prefer to pay the high price should be secured against fraud. In respect of wholesomeness and digestibility it would be hard to choose wisely between the two.

One of the great difficulties in securing the enactment of a National Pure Food Bill has been the feeling in cotton-growing regions that such a bill would restrict the market for cotton oil. This is true if the fraudulent market is meant. By that I mean the surreptitious sale of cotton oil as olive oil and as lard. But such a bill would not interfere in the least with the legitimate market for this product. Cotton oil, as a food, has such merit of its own as to warrant the belief that it does not require any smuggling to secure for it a wide and rapidly increasing use. The South as well as the North would be the gainer from honest markets for honest foods, and it is such a short-sighted policy that leads to a crusade against such legislation as will secure the desired result. It would be a rather unfortunate thing for the whole country should an irrepressible conflict between the *sus* and the *gossipyum* keep our interstate market forever open to mixed or doubtful fats.

Sugar.—The common idea that the grocer puts sand in his sugar is not borne out by the facts in this country. I doubt whether a single pound of white sand has been put into the sugar supply of this country in the last ten years. It is one of those popular fallacies which gain credence inversely proportional to their truth. The granulated and white lump sugars which are found in our markets are almost absolutely pure; as pure indeed as the utmost care in manufacture can make them. Occasionally a little flour or starch may find its way into the powdered sugar, but such instances must be exceedingly rare. Low-grade sugars contain molasses and water as a result of the way in which they are made and dried. In the refiners, after the pure white sugar has been secured, the molasses therefrom is reboiled and a second crop of sugar crystals obtained. These form the so-called coffee sugars of commerce. In a like manner a third crop of rather light colored crystals may often be formed. By a combination of low temperature and high vacuum in boiling, and by a manipulation producing small crystals,

a sugar can be made very soft, and, so prepared, it absorbs a good deal of the mother liquor in which its crystals grow. It is possible, in this way, to put on the market a fairly light-colored and attractive sugar, which may not contain more than eighty-five per cent. of pure sugar. This process of making low-grade sugars is practiced chiefly with the product of the sugar cane. In sugar from beets the molasses and mother liquors are usually so highly charged with alkaline salts as to render the manufacture of low-grade sugars, fit for table use, a very difficult matter. In this country, as is well known, the greater part of the sugar consumed is made from sugar cane. Of the 4,000,000,000 pounds which we have eaten in the last twelve months, probably 3,500,000,000 have been grown under tropical suns. The proportion of yellow, coffee, and low-grade sugars offered is therefore, greater in our markets than in Europe, where the sugar beet supplies nearly all of the sugar consumed.

Syrups.—In respect of molasses and syrups the bill of health is not quite so clean. The quantity of pure maple syrup sold annually is well calculated to make the maple forests of Vermont prick up their ears. A very little maple molasses mapleizes the whole jugful; a fact that makers and sellers have not been slow to learn. An extract of hickory bark imparts a misleading flavor to a syrup made from cane sugar and starch, and a patent has been granted by the United States protecting the discoverer of this process in the exercise of his invention. Judicious mixturer of glucose, sugar, syrup, and maple flavor are the secrets of the marvelous expansiveness of maple molasses between the tree and the gullet.

"Golden drips," "honey syrups," etc., are names given to compounds made of refinery refuse, glucose and centrifugal cane molasses. The great base of all our table syrups is glucose made from corn starch. I am far from denouncing glucose as a dangerous ingredient in such mixtures. On the contrary, when glucose is properly made, it is both palatable and wholesome, but its sale as maple molasses or as refiner's syrup or as open kettle molasses is clearly fraudulent.

Honey.—Liquid honey is very largely adulterated with glucose. Of 500 samples of honey bought in fifteen large cities and

examined by the chemical division of the United States Department of Agriculture, nearly forty-five per cent. were found to be fraudulent. Of comb honey, only that is adulterated which comes in bottles or jars. A few years ago there was a popular impression, which I shared, to the effect that comb honey in the frame was adulterated; but no sample of this kind has ever come under my observation, and I am convinced that such a species of adulteration does not exist. Perhaps there is no class of food producers in the country whose business has been so seriously injured by adulteration as the bee growers. Many of them, however, do not seem to realize the magnitude of the frauds which are perpetrated against them. They have often been known to denounce, as attempts to injure their business, the statements that such frauds are practiced. Of late, since indubitable evidence of fraud has been presented to them, they have determined to use every means to end it.

Coffee.—Almost equally subject to adulteration is ground coffee. The high price of coffee is a special incentive to sophistication. In former days it was largely the custom to buy the green berry, and each consumer would do his own roasting. Now it is fashionable not only to buy the roasted berry, but also to buy it in a ground state. Chicory, roasted peas, beans, etc., are often found in large proportions in such preparations, and in fact it is somewhat rare to find a pure ground coffee. It might be held that such sophistication would end with the ground article, but such is not the case. The berries themselves have been imitated both in the green and in the roasted state. The moistened mass of chicory, starch, pea meal, caramel, molasses, etc., is moulded into the proper shape, and, when dried, these imitations might easily escape detection when mixed with the genuine berries. Those who are so fortunately situated as to be permitted to live at home and regale themselves each morning with an aromatic cup of Mocha or Java, scarcely realize what it means to drink a lukewarm concoction of chicory and pea meal, bluish black in color, but decidedly yellow in flavor.

Tea.—Thanks to our custom laws very little tea is found in this country adulterated with foreign leaves. The chief adulterations practiced with tea are found in

the use of spent leaves, and in the practice of facing. The practice of facing consists in treating the leaves with some preparation designed either to increase their weight or to improve their appearance. Salts of iron or copper are often used for this purpose. Some of these facing materials are quite prejudicial to health, and such teas are best excluded from the breakfast table.

Cocoa.—Cocoa and chocolate are largely adulterated with starch and sugar, harmless in themselves, but far cheaper than the meat of the *cocoa theobroma*. The natural oil of the cocoa bean is also often extracted, and its place supplied by a cheaper fat or left without an oil. These various preparations are offered under fancy names and with wonderful claims of excellence. But in general we may say that the food value of a preparation is not much improved by having it digested before it is eaten. Yet often we see it claimed for a given mixture that it has had all of its difficultly digested components removed and that these are replaced by others with which the gastric juice can have a veritable picnic. The digestible cocoas often belong to this class, and, perchance, may have little of the virtues of the original beans left in them.

Canned Foods.—Of canned foods I should like to say something, but it is difficult to select the little which can yet be said. First of all, the material of which the cans are composed is a matter to deserve attention. It is undoubtedly true that glass is the ideal substance for cans designed to preserve food products. But the first cost of these packages and the danger of breakage during filling and transportation, exclude them from competition with tin in all except the choicest brands of preserved foods. Fortunately, tin is a metal which is not only troublesome to the tariff but also resistant to most organic acids. It is acted on very slowly or not at all by most organic acids found in fruits, vegetables and meats. In some countries, such as Germany, the tin which is used in contact with canned foods is required to be almost pure, and to contain not more than one or two per cent. of lead. The most abundant adulteration of tin, as found in tin cans, is lead, and it is against the presence of lead that it is especially necessary to guard, inasmuch as the organic salts of lead, without exception, are poisonous. In

this country of personal liberty there is no restriction as to the percentage of lead which tins used for canned fruit may contain. We have found as high as twelve per cent. of lead in tin from cans which have contained food designed for consumption. Such a high percentage of this dangerous metal cannot fail to excite alarm. We have also found numerous evidences of erosion on the tinned surfaces exposed to the action of the contents of the can. The tact of the preserved goods with solder should also be carefully prevented, inasmuch as solder contains often as much as fifty per cent. of lead. It is very common, however, to find lumps of solder in the canned-goods and also to find the solder protruding through the points of union of the can and cover so as to be exposed to the action of the contents.

Copper in Peas. Equally objectionable is the habit of using copper salts to impart a bright green color to canned peas and other goods. The imported French peas are uniformly colored with copper. The addition of a little copper, in any vegetable which it is desired to keep green when served, has a happy effect in that direction, and fashionable cooks have not been slow to learn this. It is true that the quantity of copper which one would eat in a single meal where French peas are served, would not prove greatly injurious, but on that large part of our population who are compelled to dine every day on truffles and peas interspersed with terrapin and champagne, there is great danger of the copper acting with accumulative effect.

I have already spoken of the danger which may lurk in preservatives, such as salicylic acid, but there is also an occasional source of danger in the development of nitrogenous bodies called ptomaines in preserved meats. These bodies may develop with astounding rapidity if a can of meat be opened, and not eaten for a day or two. An illustration of the fatality of the action of such bodies is unfortunately often found in the case of tyrotoxin, a poison often developed in milk or cream.

The above will serve as illustrations of the more common forms of adulteration to which our foods are subjected. The idea might be formed from this array of facts that foods are almost all adulterated, and that it is extremely difficult to obtain any-

thing pure. Newspapers love to magnify these accounts of adulteration. What I have placed before you has not been for the purpose of exciting a panic on the subject of foods. Much the greater part of foods which Americans eat is pure and wholesome. It is only the small quantity of adulterated food from which we should strive to protect ourselves.

The popular idea of adulteration is really very much at fault, and this has been due largely to the exaggerated statements of presumably honest men, who desire to call attention to the fraud and to prevent it by exciting the popular mind against it. The adulteration of our foods and drugs is certainly bad enough, but in my mind it does no good whatever to exaggerate, falsify and misstate the results of careful and unbiased investigations. As has before been intimated, in this address, the remedy against all these things lies clearly in the power of the people. Wise laws wisely administered, a careful system of inspection, a demand for pure food, will secure the people in their right. It is not the rich for whom we should work, but the poor, and they should be protected against frauds in food; frauds not so dangerous on account of being deleterious to health as because of their pretensions to furnish to the poorer part of our people a food ostensibly pure and nutritious but in reality valueless. It is not supposed for a moment that any system of legislation can entirely prevent the perpetration of frauds upon the community, but at least these crimes can be made punishable and their perpetrators may be compelled to endure the penalty of their misdeeds.

DR VON BLARCOM, one of the most distinguished physicians in Berlin, expresses the opinion after careful investigation that coffee long boiled produces more indigestion than any other substances taken into the human stomach, and that a simple infusion facilitates digestion.—*Public Opinion.*

It appears as if the people of the United States were steadily reducing their consumption of quinine and other cinchona alkaloids. Year after year since 1887 the importance of cinchona bark have been diminished. In 1893 the amount imported was less than half that of 1887.—*Popular Science News.*

TRANSLATIONS.

INFLUENCE OF GONORRHOEA IN THE PUERPERIUM AND DISEASES OF THE EYE IN THE NEW-BORN.*

Dr. Richard v. Steinbüchel has collected for his studies 313 cases, with as many new-born infants. The diagnosis of gonorrhoea in the mothers was based principally upon the clinical symptoms, which the author regarded as more readily depended upon than the study of the gonococci. He states that while the gonococci are present, as a rule, in gonorrhoea, they may be absent in typical cases for a few days, after which they are often seen again in greater quantities, thereby making a diagnosis based upon microscopical or bacteriological investigations more difficult than by the clinical method.

His diagnoses are based principally upon the methods of Sanger:—

1. The existence of slight catarrh of the urinary passages containing pus cells.
2. The demonstration of pus in the urinary passages, as also the deeply reddened and swollen margins of the urethral mucous membrane.
3. Inflammation of the Bartholinian glands, having the appearance of a dark purple ring around the opening of the glands (macula gonorrhoeica.)
4. Condylomatous points at the vulva, vagina or cervix.
5. A purulent or muco-purulent discharge from the cervix connected with an erosion of the os.

Having made the diagnosis of gonorrhoea in the mother, principally based upon clinical facts, the rule was to prevent, if possible, the entrance of the gonococci, usually present in the vaginal discharges, from entering into the eyes of the new-born. Of 313 new born there were 13 suffering from some affection of the eyes; of these, 9 were not virulent; 4 were of the blenorrhagic type. Of the 4 children suffering from blenorrhoea, 1 was found to belong to a mother who was not suffering from gonorrhoea, hence the child must have been infected after birth. The low percentage (4 cases of ophthalmia, 1.28 per cent. from 70 mothers suffering from gonorrhoea equalling 21 per cent.)

may be due to the use of Crede's method, which is often left in inexperienced hands.

The influence of gonorrhoea upon the puerperium could be studied by the author only during the interim of 8 days after the confinement, since the patients were usually transferred after that to another department; S. concludes from observations made during this time that this disease did not have any marked influence on puerperal diseases in general. Seven of the gonorrhoeal patients had a rise of temperature in the first 8 days (10 per cent.) while the rise of temperature in those not suffering from gonorrhoea was 9 per cent. as a rule. The first group contained one fatal case, and the second two, caused by sepsis (due to an epidemic of erysipelas, the hospital contained no room for isolation.)

After some energetic investigations into the subsequent histories of some of these above mentioned cases, S. traced eight. Six of these were grave affections of the tubes, ovaries, and peritoneum. The first symptoms set in between 3 to 12 weeks. The author states that the lochial discharge carrying with it, as it often does, shreds of mucous membrane, may be the cause of the delay of active symptoms, which he proves by the facts that as soon as the discharge ceases and the involution progresses the symptoms of the gonorrhoeal infection become more marked.

—*Deutsche Med. Zeitung*, March, 1894.
—W.

THE Zoothermic Institute in Rome is a "cure" place, where people go to drink fresh blood for the cure of gout, rheumatism and the great prostration and anæmia caused by the malarial fevers of the Tontine Marshes. The blood to be imbibed is first rapidly freed from fibrin by a carefully aseptic method, the animals from which it is derived having previously undergone inspection by a veterinary surgeon. Some patients bathe either a part or the whole of the body in the warm blood, and the Italian doctors think, with great benefit.—*New York Independent*.

* Translated for THE MEDICAL AND SURGICAL REPORTER by the translators W. A. N. Dorland, M. D., M. B. Werner, M. D.

THE FINAL RESULTS FOLLOWING THE EXTIRPATION OF THE ASTRAGALUS FOR THE TREATMENT OF THE VARIOUS FORMS OF CLUB-FOOT.

In a monograph on this subject, J. G. Gohl considers at length the etiology of this affliction in its various forms. In the case of a congenital club-foot of aggravated form, the wound healed, without any complication, within five days. The patients were permitted to make some efforts in walking and succeeded so well that at the end of fifty days they were discharged cured, any external support being deemed unnecessary after that time.

(One of the two cases—*pes varus congenitus duplex*—in which extirpation of the astragalus, a portion of the calcaneus and cuboid, necrosis of the toes and the metatarsus set in.)

In those cases in which paralysis existed, due to disturbed functions of the muscles, it was always deemed necessary to improve the patient's general health in order to insure a rapid and healthy union of the surfaces operated upon. The usual time between operation and discharge was between fifty to sixty days. The immediate results of the two cases belonging to the cicatricial variety were perfect, but it was impossible to make any statement regarding their permanent cure since both died by some intercurrent disease.

The desirable feature in this operation is that there is no need for the usual after treatment with external supports. It is necessary to begin early with passive, and later active motion followed by massage—a firm support for the ankle is needed only immediately after the operation in order to sustain the still somewhat weakened joint. The greatest care should be exercised in sustaining the ankle by properly selected shoes.

The excision of the bones produce but a slight degree of shortening and may be readily overcome by thicker soled shoes. There are a number of plates showing casts of feet, before and after the operations.—*Centralb f. Chirurg.*, No. 8, 1894. It may be interesting to add in connection with this that Dr. Thos. G. Morton, of Philadelphia, has operated on about thirty cases in much the same manner, taking great care to remove all the bony obstructions to insure a thorough correction of the deformity, having preceded this by a tenotomy of all the flexors and extensors which seemed to require it. All the cases made an uninterrupted recovery, and were thoroughly and permanently cured.—M. B. W.

THERAPEUTICAL SUGGESTIONS FROM FOREIGN JOURNALS.*

PICRIC ACID IN SUPERFICIAL BURNS.

Dr. P. Filleul, (*La Semaine Médicale*, No. 7, 1894) states that at the Hôpital de la Charité in Paris, picric acid has been employed with success for several years in the treatment of superficial burns. A saturated solution is applied on gauze compresses; they must be carefully wrung dry before they are laid on, and if the dressing remain antiseptic, it does not require to be changed frequently; at first every three days and then every four, five or six days. No impermeable protective is necessary for they are simply allowed to dry on the burn. Besides being antiseptic and healing it also calms the pain. There is no danger of poisoning, of irritation of the skin, nor

of any other disagreeable side-action. The only disadvantage is the yellowish discoloration of the parts with which it comes in contact.

SUBLIMED SULPHUR IN DIPHTHERIA.

Dr. Baeumler (*Muenchener Med. Wochenschrift*, No. 10, 1894) recommends sublimed sulphur in the treatment of diphtheria from the results obtained in an experience of over seven years. The powder is applied to the affected parts, at first, every one to two hours and eventually every three to four times a day, by means of a large and soft camel's hair brush; during the intervals, a weak solution of permanganate of potash is used as a gargle. The results of this treatment

*In charge of the translator, F. H. Pritchard, M. A., M. D.

were better than those obtained with previous methods. Even severe cases, with extensive gangrene of the soft palate, often pursued a favorable course. He advises an extensive employment of sulphur in this disease.

IODINE IN ACTINOMYCOSIS.

Dr. Ostertag (*Deutsche Med. Wochenschrift*, No. 9, 1894) thinks that the treatment of actinomycosis by the iodides as recommended by Thomassen, has not met with the recognition that it deserves. He concludes from his experience as well as from that of others, that iodine is an actual specific in this disease. In the treatment of cutaneous and subcutaneous actinomycotic growths, a deep crucial incision was made and the hardened tissues painted, once a day, with the tincture of iodine. Internally iodide of potash was given in aqueous solution, once or twice a day. In two to four weeks recovery would follow. Bass, Fuertmayer, de Jong and others have also obtained similar results. The result was analogous to that seen in gummatous tumors after administration of the iodide.

ETHER LOCALLY IN INCARCERATED INGUINAL AND FEMORAL HERNIÆ.

Dr. Lyncker (*Wiener Med. Presse*, No. 12, 1894) has used ether locally, for the last five years in the treatment of severe cases of incarceration in inguinal and femoral herniæ and has not been obliged to resort to surgical measures even in the severest cases. If reduction was found impossible, an injection of morphine was given and every quarter to half hour, a teaspoonful of ether slowly poured onto the hernial tumor. In thirty cases treated thus painless reduction was possible even after incarceration had existed for several days and the hernia was large. He can only recommend this method most heartily. (An injection of atropine and morphine into the region of the ring with elevation of the pelvis is also an excellent procedure; Gussenbauer advises also the local application of ether, but with elevation of the pelvis, which latter measure is of itself of value.)

GUAIACOL IN DIABETES AND THE POLYURIA OF DIABETES.

Dr. T. Clemens (*Wiener Med. Presse*, No. 5, 1894) praises the action of guaiacol

in the treatment of diabetes and the associated polyuria. The dose of the (pure) drug was three to six to ten drops, three a times day, in a tablespoonful of milk, or, if tolerated, in an eggcupful of cod-liver oil. In order to control its influence he did not order any special diet and examined the urine, passed after dinner, on several consecutive days. After the patient had taken the drug for eight days his urine which usually contained from 1.86-2.90 per cent. of sugar, in the afternoon, showed a very considerable reduction; in some cases the sugar was only present in a very slight quantity, in a few entirely lacking. After it had been taken for two to four weeks, here and there, a few sweet foods containing sugar could be allowed without influencing the amount of sugar in the urine. A still more striking action was observed in the polyuria of diabetics. In some cases, in eight days the quantity of urine was reduced by half. This was controlled by discontinuing and reducing the dose of the drug. In all cases the general condition was improved while the remedy was well borne.

PIN WORMS.

Dr. Etter (*Norsk Magazin for Laegevidenskaben*, No. 1, 1894) claims that the best remedy for pin worms is to catch them. In the evening at about bedtime when these worms take their evening promenade the patient should be placed in the knee-elbow position, the anal folds separated and the active little creatures be caught with a small pair of forceps. The first day will yield the best results but one should not discontinue the search too early even though no worms have been seen for several evenings.

SYPHILITIC INTERCOSTAL NEURALGIA.

Dr. Obolenski (*Medicinische Neuigkeiten*, No. 9, 1894) reports several cases of intercostal neuralgia of a syphilitic origin. Diagnosis was made by exclusion and confirmed by the immediate and rapid results obtained with mercury. As characteristics, he calls attention to the bilateral appearance of the pains, their setting in or becoming more pronounced during the night and their aggravation at night—osteocopic pains.

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SATURDAY, APRIL 21, 1894.

EDITORIAL.

A NATIONAL DEPARTMENT OF PUBLIC HEALTH.

Elsewhere in this number will be found in full the text of a bill prepared by a special committee of The American Medical Association, together with the memorial framed to introduce the bill to the National Senate and House.

The memorial intimates some excellent reasons for the enactment of the bill, but we are inclined to think that the petition, although exhausting, is couched in terms too general to avail much with the average law-maker. The improvements desired involve some radical measures. It asks for the establishment of a Federal Department of Health with an executive head who shall be a member of the President's Cabinet, the peer of all other members of that body. In our opinion the bill is reasonable, wise, beneficent and timely. It seeks the formation of the department on a very broad basis but leaves the details of organization and development to be worked out by the department itself within limits abundantly wide and at the same time distinctive. A reading

of the proposed measure will commend it to everyone as a righteous and necessary act of public policy and one calculated to greatly enhance the well being of the citizen himself. Senator Sherman is expected to introduce the subject in the upper house, while Mr. McCreary of Kentucky, will present it to the House of Representatives.

Meantime another and much inferior bill, engineered by the New York Academy of Medicine, has already been introduced to the House and by it referred to the Committee on Interstate Commerce, before whom advocates of the measure were given a hearing at Washington, D. C., on March 28th. According to the *New York Medical Record*, "short addresses in favor of the bill were made by Drs. T. Gaillard Thomas, Richard H. Derby, J. H. Girdner, George F. Shrady and T. Mitchell Prudden, of New York, Professor William H. Welch, and President Gilman, of Johns Hopkins University, and by Dr. Rohé, of Baltimore, representing the National Bu-

rean of Health Committee of the Medico-Chirurgical Faculty of Maryland. The speakers were most attentively heard by the Congressional Committee, and much interest was manifested in the purposes of the bill."

Marked inferiority of this latter bill will be made evident by comparing the measure proposed by American Medical Association with the following:

ANALYSIS OF PUBLIC HEALTH BILL PROPOSED BY NEW YORK ACADEMY OF MEDICINE—BUREAU OF PUBLIC HEALTH.

The Bureau. Two Commissioners-at-Large; nine District Commissioners; four Ex Officio Commissioners.

Officers elected by Bureau. President and Vice-President, to be elected from Commissioners-at-Large (outside Secretary).

Compensation. President, (\$15 per day; all other Commissioners, (\$10 per day; Secretary, \$3,000 per year.

Executive Committee. The President and the four ex-officio Commissioners.

Duties of the Bureau. Make rules for duties of Executive Committee; make rules for guidance of Bureau and employes, establish rules for government of National sanitation, foreign and Inter-State special departments; may call conference with State Boards.

SECTIONS 5, 6, and 7. Collect and diffuse information; advise the Departments of Government, Executives of the several States, all Health Authorities when called for, or when the Bureau thinks best, to to secure sanitary condition of vessels from foreign ports; to prevent the introduction of contagious and infectious diseases and their spread, and to be the Government medium for National sanitary action; may make investigations abroad, and the President of the United States may, on request, detail officers from the several Departments of the Government.

SEC. 8. Shall report facts to Secretary of Treasury.

SEC. 9 and 10. Shall obtain information of sanitary condition of foreign countries from Consuls and from domestic sanitary authorities, and transmit same to various public and State officers.

SEC. 11 (dup. of Sec. 6). Shall furnish information and advice to States and Government Departments when requested.

SEC. 12. Shall co-operate with State authorities and secure uniform system of notification.

SEC. 13. Shall make rules for vessels engaged in foreign trade.

SEC. 14. Shall issue rules and regulations to Consuls.

SEC. 18 and 19. Shall have authority to forbid entry of vessels under certain specified conditions, and may order vessels to quarantine; may send to National or State quarantine in case of epidemic.

SEC. 20. May exercise Inter-State quarantine authority.

SEC. 21 and 22. Provides for purchase of State quarantines.

SEC. 25. Shall make an annual report, and its correspondents may have franking privilege one million appropriations. District Commissioners, Sec. 8. Examine into health measures employed in respective districts, and report same to Bureau, and thereafter make annual reports of sanitary affairs of his district.

Surgeon General of the Army, execute all orders, rules and regulations relating to sanitation in his branch of the Public Service.

Surgeon General of the Navy. Same as above.

Surgeon General Marine Hospital Service. Perform all duties in respect to quarantine and quarantine regulations provided by this Act."

This analysis was made of the original proposition of the New York Academy of Medicine, which, however, latterly withdrew the original bill providing for sanitary districts, and substituted a very much better one, but retaining the great defect of organizing as a "Bureau" in an already existing Department. It would seem that the latter measure could be advocated only on the grounds of expediency—that half a loaf of bread is better than none at all.

The REPORTER does not anticipate any action on either of these measures by the present congress. Because the measure is non-partisan, non-sectional, is not rendered absolutely compulsory by the imme-

diate pressure of public opinion, and principally because it is pure common-sense. A glance at the Capitol shows the House striving to solve the arithmetical problem of counting a quorum and each time obtaining a result which fails to prove by the test of "a call of the House," while the Senate is agonizing in the throes of the second stage of a parturition, complicated by a cross-presentation and showing every sign of impending eclampsia. It would be folly to expect our legislators to pause in the manipulation of these most important projects long enough to consider a measure whose prime recommendations are its utility and wisdom.

But the energy thus expended is not wasted, for we can bring greater pressure

to bear each time we repeat the effort, until we eventually succeed as we will. In the meantime public opinion will grow stronger and stronger as it appreciates the value of the object lessons presented by the various State Boards of Health, many of which are doing most efficient service within the limit of their powers, thus giving incontrovertible evidence of what can be accomplished by such a body invested with national powers and authority.

A very great impetus can be given this most desirable movement if medical societies will officially express their approval and urge upon Congress the establishment and equipment of a Department of Public Health on a parity with the other governmental departments.

ABSTRACTS.

A PETITION TO ESTABLISH A DEPARTMENT AND A SECRETARY OF PUBLIC HEALTH.

To the Honorable the President of the Senate and the Speaker of the House of Representatives of the Congress of the United States of America.

The American Medical Association at its meeting at Washington in May, 1891, adopted unanimously this resolution:

"Resolved, That the President of the Association. W. T. Briggs of Tennessee, appoint a committee to memorialize the next Congress to create a Department and a Secretary of Public Health."

At the meeting of the Fifty-second Congress in December, 1891, a petition and a bill to that effect were introduced in both Houses; in the Senate by the Hon. John Sherman, and in the House by the Hon. John A. Caldwell, and they were referred to certain committees. No report has ever been made to either House on the subject.

At the annual meeting of said Association in the City of Detroit in June, 1892, the Committee reported the failure to secure any action of Congress on the petition; whereupon the Association again directed the select committee to renew its appeal for Congressional action; but no

notice was taken of it, chiefly because the alarm at the approach of cholera from Europe led Congress at once to enlarge the existing quarantine system which it was supposed would answer all purposes.

The Chairman of the Committee addressed a communication to the Chairman of the Committee on Contagious Diseases in the Senate, which set forth that while the quarantine measures were very effective so far as the hindrance to transplanting the disease of other lands were concerned; yet they did not include all the measures for the operation of preventive medicine which the American Medical Association was seeking to establish for the public welfare.

The only answer made at any time by this gentleman was merely verbal, and that it was his belief that Congress would not appropriate money that would increase public expenditure.

At the annual session in Milwaukee in June, 1893, these facts were reported, and the Special Committee was ordered to renew the appeal at the approaching Fifty-third Congress. Under this authority

the undersigned beg your consideration of the whole subject anew.

In the Pan-American Medical Congress, which met in Washington in September, 1893, under the auspices of our Government, the most august assembly of medical men that ever met in this hemisphere, this question was carefully discussed and unanimously approved. Moreover, a large number of State Boards of Health, the National Board of Public Health and numerous medical societies in different cities and States have given their adhesion to this movement.

The American Medical Association is constituted of men of distinction in every part of the Union. For more than forty years its sessions have been held in the chief cities of the States lying between the Atlantic and Pacific coasts, and it represents nearly one hundred thousand intelligent and well-known citizens. The annual sessions have greatly promoted scientific research into the causes and treatment of diseases of every character, the formation of State Boards of Health, higher medical education and the publication of treatises on preventive medicine and medical practice which forms a continuous line of medical progress in the last half of this century.

The Government, through the operations of the Surgeons-General of the Army, Navy and Marine Hospital service has made liberal expenditures for the National Medical Library and its Index Catalogue, a Pathological Museum and some investigations on the origin, nature and spread of the fearful infectious germs that are brought to us by immigrant and other ships. But the medical profession believes that the Government can, in a wider way, promote the public welfare by creating a Department of Public Health, the head of which should be a physician, a member of the Cabinet and on a parity with the heads of the Departments of War, Navy, Finance, Justice, Agriculture, etc. A fair investigation will show that no profession excels ours in positive efficiency to sustain public order, public comfort and public virtue.

Hygienic science, on the one hand, and the progress of the sciences and growth of the mind, on the other, have always been powerful factors in the evolution of humanity. In the first century, when Rome had reached her apogee in power

and civilization, and had constructed great aqueducts, public fountains, public latrines, gymnasia and a vast system of sewers, under the suggestions of physicians, Martial said that it was not merely a question of living, for the people, but to have good health; hence the maxim that has come down to us: "The health of the people is the supreme law."

Recently, the Lord Chancellor of England, appointed Sir James Crichton Browne, M. D., LL.D., as his visitor to make certain investigations in regard to the public health, and of the influence of certain employments upon the health, and comfort of the laboring classes. We can only give a partial exhibit of his observations. He found, that while the decline in the death rate at all ages had been, within a certain period, 17.5 per cent. in those under 55 years of age, it had been reduced only 2.7 per cent. in those above 50 years old. The increased longevity has occurred under the age of 35. The decline in the death rate beyond the age of 45 had been insignificant, but from 65 to 75, the death rate was increased. He adds that it is not satisfactory to learn that while there has been an enormous increase in the duration of life in babies and young people, the loss is alarming among those who are eminent in experience and judgment. The causes of this vital failure in the mature element of society was not difficult to find by his statistical studies. In three or four groups of diseases a marked increase in mortality has taken place; thus, in England and Wales, cancer in five years, from 1859 to 1863, carried off 35,654, while in five years from 1884 to 1889, the deaths by cancer were 81,620 an increase of 120 per cent. The increase in deaths by nervous diseases in the same period was 38 per cent.; in kidney diseases for the same period the increase in deaths was 164 per cent.; in heart diseases, the increase was 143 per cent. These affections, he continues, are of degenerative character and largely may be traced to vital abuse, overstrain and the increasing luxuriousness in our advancing civilization which establish premature senility. Moreover, the large increase in insanity is causing solicitude everywhere. It cannot be questioned that this fearful increase in bodily and mental decay should be well understood by and placed before the people. There is another

phase of this question of premature decay of great interest and it concerns a burning question of the day. Sir James says, that owing to the strain and drive in many manufactories where handicraft piecework prevails, the neuro-muscular systems of the shoulder, arm and hand which on the average attain maturity at 30 years, and should continue as much longer, begin to fail at 45 years, and while at 30 a man can earn 45 shillings a week, at 45, strive as he may, he cannot earn over 38 shillings, and at 55 his earnings fall to 24 shillings, owing to the premature decay of the motor apparatus from overwork. In Sheffield he found that penknife makers aged 30 years, strike 28,000 blows a day with a hammer, but at 45, they find their celerity and skill have declined to nearly one-half, and a reduction in wages to the same extent ensues.

As we have no national office for the collection of such statistics, except perhaps the Bureau of Labor in a partial way, we must rely upon those furnished by other nations.

The telegraph operators, everywhere, sooner or later become the victims of scribe's palsy of the fore-arm and fingers on account of the excessive use they are obliged to make of them, for, as their celerity fails their wages decline. The mail clerks on railroad trains are required to work many hours more than in other Government offices, and are besides compelled to memorize, with all the certainty of the multiplication table, the locality of eight to ten thousand post offices in the vast districts of the country. The effect in numerous cases of this excessive use of the memory is insomnia and a mild form of dementia. It is, certainly, a function of statesmanship to investigate these serious evils. The Government has begun to investigate the exposure of employes on railroads who are often wounded and killed in the coupling of cars; and the investigation of the desperate use of young people in the "sweat shops" of clothing establishments has created a great outcry for their relief.

"In 1848 the Public Health bills in England went into operation. The annual death-rate which up to that time was 22.5 per thousand diminished to 17.9 per thousand within twenty-years; showing a saving in that time of 125,000 lives. The effect of hygienic measures in pre-

venting sickness is well known in the State of Michigan. During the year 1889 there were 417 outbreaks of scarlet fever. In seventy-two of these outbreaks, isolation and disinfection were neglected and the number of cases, per outbreak, was 16.78 per cent. In fifty-two outbreaks, both isolation and disinfection were strictly enforced with the result of limiting the number of cases to 2.67 per cent. In many outbreaks only one restrictive measure was used and the other neglected, and in all such cases there was some reduction in cases, but never to the same extent as when both were enforced." (Dr. J. W. Brannan, *New York Medical Record*.)

Our census of 1890 shows that 524,000 deaths occurred in that year, and that 100,000 were from consumption. It is estimated that about one-half the whole number was due to diseases that could have been prevented.

It is now becoming generally known that infectious diseases and toxic elements are disseminated in food. An infectious disease in the family of a dairyman, or among his cattle, may be as widely spread as is the distribution of his milk. The pollution of streams supplying towns, cities, and wells of water at farmers' homes, we know, definitely, subject the people to tedious and fatal diseases which a wise sanitation would prevent. It is absolutely demonstrated that by the rigid application of hygienic measures the ravages of a pestilence may be stayed. Medical scientists speak of such destruction as a self-imposed curse of dying in the prime of life.

In primitive history we find that hygeia and therapy were the conservative and remedial agencies of afflicted peoples. We read with admiration of the wisdom which made sanitary measures a part of the religious codes of a nation. The hygienic laws of Moses, which undoubtedly embody fragments of his Egyptian training both as a physician and a priest, and the moral law, the Ten Commandments, received from the hand of God, have been kept together by the Jews in their sacred books and inculcated in their religious and social rites for thousands of years, which clearly accounts for their existence, physically and mentally, as one of the most vigorous races among the multitudes of the earth.

Physicians are held to be the guardians of the organs that concur for the maintenance of a healthy animal life, but it is not so generally understood that the great brain, the physical basis of the mind, is just as much an organ of their conservative regard; it is not so well known that the healthy brain is necessary to a free will—the function that places man in his supreme condition as master of created things.

The increased light which physiology and pathology have shed upon the relations of the brain and mind, has enabled us to locate the area in the brain where exists the capacity to think, where sensations are shaped into concepts, where ideas are symbolized in language, where memory holds its seat, the imagination displays its marvellous powers, and self-control is enthroned. All of the apparatus of our mere animal life—respiration, circulation of the blood, digestion and assimilation of food, excretions of waste tissues and the actions of the nervous and muscular systems are to maintain and develop in perfect health an area which we can cover with our two hands. It is the region of self-consciousness, the plane where spirit and matter are in impact and which enables a man to say: "I know that I know, I feel that I feel, I think that I think;" it is there, indeed, that consciousness feels itself to be coterminate with the cosmos. Who but the physician has the right to supervise this dread region? Closer than the minister of religion, or the rights of family, he stands as the guardian and interpreter of its illimitable faculties.

By prolonged physiologic and pathologic research, psychology has been lifted above the mere subtle reason of the schoolmen into the light of a new day, and is now comprehended as never before. Metaphysics is no longer a mere jugglery with words and phrases, but a function of consciousness only existing in the healthy area above described; it is the highest expression of reason, whereby the intuitional phenomena of thought and the phenomena derived from the senses, the ideal and the real, the subject and the object, the me and the not me, are brought by a free will into accord and the consciousness is freed from the baleful illusions, hallucinations and delusions which exist in the insane. The imperfect state of conscious-

ness in unsound sleep, illustrates a mental state wherein ideas flow freely, regulated only by automatic association; we are led everywhere by the most grotesque and often fearful ideation, without any self-control; the metaphysical function is in abeyance; there is no metaphysics in dreams, the consciousness is on too low a plane for any exercise of the will. This argument is legitimate and should be convincing, that medical men hold an indispensable relation to the social and political state.

All abuses of the appetite in any direction, all violence done to the brain by overwork, overstrain, the excitement of narcotics, and the delirious speculative ventures in the values of stocks and of the products of the crops; everything, indeed, that keeps up, unduly, mental excitement, deteriorates at length the organic structures of the brain, enfeebles the mind in judgment on any subject; in short, a condition of dementia supervenes. It is for the physician to warn teachers of the deleterious effects of overtasking scholars; to warn people against luxuriousness, indolence, and the habitual use of stimulants, and excess in any passion or appetite; for, while the organs of mere animal life are damaged the nutrition of the brain is changed, the will becomes so impaired that self-control is lost. It is appalling to contemplate the social destruction about us on account of the prevalence of the passions of avarice, speculation and lust which so greatly defile public virtue. These are evils the indulgence of which has ruined statesmen and empires. Luxury and vice in combination form the dynamite in the moral world.

The medical supervision should begin in the primary and intermediate schools, which are frequently in overcrowded, ill-lighted and ill-ventilated rooms; this has become so serious that in Germany, at least, it has brought about State interference, and physicians must be consulted in regard to the hygienic properties of a school-house. The physical structure of the eye is most liable to evil changes, leading to shortsightedness; and the organic life of the brain substance is exposed to deterioration leading to lowering of the intellectual faculties. In the technological schools of France the use of tobacco is forbidden, because it has been ascertained that its abuse renders the student incapable of

solving the highest problems in mathematics. It is also of great importance that the methods of teaching should not involve an excessive abuse of the memory—the *memoriter* plan. This it is thought is too greatly employed in American schools, but it seems to be a necessity so long as the rank of a pupil in his class depends upon the rate per cent. of correct answers. The abuse of the memory fatigues the brain as physicians well know, and impairs the power of the free will. Lessons are memorized, and not acquired by efforts of the understanding, hence they are not well retained and furnish a poor basis for intellectual ability. Not only so, but the emotional conditions so often encountered, and the startling phenomena of hysteria and hypnotism are thus often superinduced. There are no fortuitous conditions that concur for the production of the best moral and political circumstances of society; the whole is purposive intelligence existing in the individual and combined in the exigencies of the family and the State. Wherever the highest development of physical health exists, there will be found the surest basis of intellectual life. These are not abstract questions of philosophy but are the most practical questions of our times.

A candid and broad investigation of the medical profession shows that it appertains to the most important functions in the commonwealth. A distinguished English writer has said: "I think it will be well for the state when the medical profession is represented in the councils of the nation as weightily as can be assured by official places and conferred dignities." An eminent German economist has said: "We must look to the medical men to resuscitate society." There are no evils in society which physicians may not do much to avert; there are no foes of human happiness so widespread, miserable and despairing as those which underlie public health; and physicians are the only hope of public relief.

It is certainly a remarkable spectacle, the constant efforts of physicians to save the people from outbreaks of disease, when success will limit to the smallest dimensions our practice and incomes. But this arises from the nature of our studies whose tendencies are to render an unselfish service to humanity in the time of its

calamities. The physician is bound to render services to the poor, especially. The amount of gratuitous service in great cities is a very large part of their practice. In all of our public general hospitals they serve without salaries.

If there were cruelties to prisoners on either side in our civil war, it was not perpetrated by the surgeons of the opposing armies. When the strife ceased they were the first to extend the fraternal hand across the red fields of conflict.

The progress of medical science establishes our increasing responsibility to place our medical schools on the highest plane of teaching. There is a very large aspect of medicine that renders it so commonplace as practically to degrade it, and this is a consideration that will be a great obstacle in the way to your adoption of our bill. I allude to the giving of drugs by everybody for the relief of symptoms of disease. It may be said all the people, young and old, not only offer general advice, but specify the remedies to be used. If medicine has no other basis than prescribing, it would possess no autonomy, embody no science, nor philosophic spirit; it would only become an unstable empiricism and would be abandoned to a revolting charlatanism and its practitioners be mere vendors of secret, false remedies, and, as is now so largely done, would rob the sick not only of their money but of any hope of relief.

The human frame is said to be the Divine idea of mechanism, and nothing in all the works of creation so completely illustrates in its structure what is called by geometers the "principle of least action," that is, the greatest competency in function, with the least expenditure of material. Its figure, symmetry, mechanical, physical, chemical and biological forces are so correlated that it fulfills all the conditions of adjusting internal to external relations. Its organs of special sense, its area of consciousness wherein it is the equipoise of the physical creation, justifies the ascription that man is the crown and flower of creation. Can any one doubt that it is only by a long and minute study that such an organism can be comprehended? Congress appropriates annually more than a million of dollars for the maintenance of military and naval schools, where the whole range of sciences are inculcated to ascertain the most ap-

proved methods of public defense and of killing our enemies. Can it be thought that any less science is needed to ascertain how to destroy myriads of enemies that provoke disease, and all the more terrible because invisible to common sight; and to save from death the most precious objects of human love and solicitude? Are there more scientific problems for solution in war by sea, or land, than those that exist in the grievances of our social life?

But we are not asking Congress to build a great medical school of instruction. Congress appropriates willingly large sums for the study of the diseases of cattle and plants, but comparatively nothing for the diseases of the people. But we show you that 522,000 inhabitants died in 1890, and that 250,000 of them at least, have perished by diseases which are preventable!

We ask for a Governmental Department of Public Health; one of whose functions would be the combination of the intelligence, feeling and force of all the schools and medical societies of the nation for collective investigation in order that physicians may become capable to the utmost, to relieve the woe and agony of suffering individuals and families.

For the medical profession to be able to exert all its benign influences in society, it must have the same rank and dignity that is attached to other Departments in the President's Cabinet. The methods of research are the same as those employed by other scientists. The methods of the calculus that are employed to ascertain the cause of the perturbations of celestial bodies, are the same as those employed in the investigation of obscure diseases. The physician is guided in his investigations by the canons of logic, and hence it is that the opinions of well-trained doctors are as reliable and stable as those of jurists, statesmen, engineers, merchants, divines, lawyers and political economists. The same reproach applied to doctors because of their different opinions, applies equally well to all other callings.

At this time the success in medical practice surpasses any other period of its history. The death rate in our general hospitals was never as low. In surgery it is about 3 per cent.; thousands of successive births take place in maternity hospitals, without a single death; the mortality in typhoid fever is about 3 per cent. in hospital practice; in general medicine the

rate is declining; but it is not so low as in surgery because of the increasing mortality, as before said, in such diseases as consumption, cancer, kidney, heart affections, and the continued bad hygienic conditions in the congested areas of our large cities, where one-half the children die under five years of age. (Cincinnati Hospital Report, 1893).

The influence of medical culture upon the progress of civilization as before said, both in ancient and modern times forms a great chapter in human history. The evolution of the mind and the achievements in philosophy are no more marvelous than what is seen in preventive and clinical medicine. The chief figure in the most brilliant era of Greek civilization was Aristotle. He was of the Esculapian caste and took up the profession of his father, a practitioner of medicine; but his constant dissection of animals and plants aroused a philosophic spirit of seeking behind all the phenomena of nature by synthetic formula, the unity of all living beings and their indissoluble relation to the cosmos.

We can not, in our space, point out all the achievements of his immense genius nor his specific work in detail that entered into his purpose of constructing the edifice of inductive philosophy. Mere fragments of his precious writings were the only intellectual food (excluding the canon of sacred Scripture and the liturgies of the Church) of the Dark Ages; but when at last the chief of his philosophic works were collected and translated into Latin, the dawn of the revival flushed the skies and the sun of a new mental life shone in full strength upon the scholastic world, —the church adopted his philosophy and the renaissance was complete. The influence of Aristotle has continued to direct modern thought, and though much of it has been laid aside, his inductive philosophy and logical methods are invincible.

In Europe, medical affairs have always had the watchful care of the state, and eminent practitioners are now more than ever before, receiving titles of distinction. In Italy a physician holds a Cabinet Secretaryship, and in the Parliaments, everywhere, distinguished practitioners are taking part in general statesmanship. Without the science of medicine, civilization could never be effective in semi-civilized and barbarous lands.

The conquest of India by Great Britain has been maintained by superior military power; but its present tranquillity is largely due to the beneficent work of medical practice. Since the last great rebellion there, the English and missionary societies of our own country have established fifteen hundred hospitals and dispensaries, and medical schools are increasing in numbers. The light of Christian benevolence is now carried into the hitherto closed doors of the homes of the people. In China the same benign work has taken deep root. Fifty years ago Dr. Parker of the American Presbyterian Church, opened a hospital in Canton, and an immense work has been accomplished in surgical and midwifery practice, for which the Chinese had no remedies at all. Now a large number of hospitals and dispensaries have been planted along the sea coasts and throughout the interior. Besides male, a large number of well-educated female practitioners, are employed in them. It is the most touching spectacle of human sympathy and relief the world has ever known. Were it not for their skill in medicine the American missionaries would be expelled. Japan, Korea, Java and Africa, are being advanced in civilization in the same manner. Dr. Mungo Park and Dr. David Livingston were the most venturous explorers of Africa.

It is the belief of many physicians that if from the beginning of the settlements in this continent the medical office had been recognized as a Department of the State, on a parity with those of War, Justice and the rest, the great tribes of savage races could have been made friendly, and allies, and brought under the terms of a high civilization by the humane influence of our medical men.

Though Congress is voting vast sums for agricultural schools and experimental stations, yet these are above the reach of the great mass of farmers and their adult sons and daughters. They can not leave the fields and the household duties for at least nine months of the year, and they can not pay the expenses incident to college life; but schools of instruction, by means of lectures, demonstrations, drawings and experiments in physics, chemistry, and the structures and the functions of the chief organs of animals and plants, can be readily inculcated by the doctors in medi-

cine who have themselves been taught in this manner. These lectures can be given by physicians during the winter seasons in the towns of the counties and within reach of the farmers' homes, and a central office, such as we propose, would aim to promote this without expense to the Government.

It will be the means of putting new life into the freshest and strongest minds of the people. Every farm would soon become an experimental station; Nature would be seen with new eyes, and the dull and monotonous lives of this most neglected class would become radiant with a new light. This may be counted one of the great influences that will follow the higher education of physicians.

The question may arise, whether such a Department in the Government would subserve the interests of any particular sect or school in medicine? We reply that, amid the apparent disparity in medical practice, there is one true unity and to attain this all true physicians are continually striving. It is evident that there can be but one anatomy, physiology, pathology, chemistry, physics or preventive medicine. The difference among doctors lies in therapeutics or treatment of disease, and as in the past, so for the future, practitioners will use a variety of remedies and in varying quantities, and there will be different modes of management of sick and injured people. With the advance in medical education the modes of treatment will become more unified.

The organism which is called medicine, like every other product of man's constructive genius, is striving to attain perfection, and to accomplish this it must be sustained in all its scientific undertakings by the co-operation of national and state legislation.

We ask each member of Congress who seeks relief for himself and his family in the times of their distress through the most accomplished practitioners of medicine, to consider that his mind is the type of that of millions who constitute the republic; and therefore we ask him to lend his influence to our effort to secure for the people the most highly trained persons in the science and art of medicine.

We hope that it is plain that a Secretary of Public Health would represent the medical consciousness of the nation, and that he would be one to whom we could all

look for the exploitation of measures that will direct continuous scientific collective research in regard to epidemic and endemic diseases, and especially those of a degenerative character; and thus make his department the repository of the most important measures that concern the welfare and comfort of the people; and his duties will steadily grow broader and stronger in adaptability to public needs.

Respectfully submitted on the part of the Committee.

C. G. COMEGYS, Chairman.

A Bill to Establish a Department of Public Health.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled.

SECTION 1. That there shall be established a Department of Public Health. There shall be appointed by the President from the medical profession, by and with the advice and consent of the Senate, a Secretary of Public Health, who shall be entrusted with the management of the department herein established. He shall be paid an annual salary of \$8,000.

There shall be appointed by the President, with the approval of the Senate, an Assistant Secretary of Public Health, at an annual salary of \$5,000.

The Secretary of the Public Health shall, with the approval of the President, provide suitable offices for the department, and shall employ such assistants and clerks as may be necessary.

SEC. 2. It shall be the duty of the Secretary of Public Health to obtain through all accessible sources, including State boards of health, municipal authorities, and the Surgeon-Generals of the Army, Navy and Marine Hospital Service of the United States, weekly reports of the sanitary condition of all ports and places within their territories and departments, and he shall publish weekly abstracts of the information thus obtained and other pertinent matters received by his department. The said department also shall, as far as possible, by means of the voluntary co-operation of State and municipal authorities, of various general and special hospitals, sanitariums, public associations and private persons, procure and tabulate statistics of marriage, births (noting those

that are illegitimate), and deaths from epidemic, endemic and all other diseases, specifying those of a degenerative character, such as malignant growths, and affections of the nervous, circulatory, respiratory, secretory, digestive and reproductive organs, and from violence, accidents, suicide, murder, and data concerning the fruit of consanguineous marriages and the transmissibility of insane, alcoholic, syphilitic, nervous and malignant types of constitution to offspring, and to evils of race miscegenation. He shall also procure information relating to climatic and other conditions beneficial to health, and especially in reference to the most favorable regions in the United States for the cure or relief of chronic diseases, particularly tubercular consumption. He shall also procure information as to the prevalence and ruinous effects upon the body and mind of intemperance and prostitution. He shall endeavor to ascertain the extent, the origin and classification of insanity in the several States and territories of the country. He shall investigate the state of comfort of the laboring classes in respect to their lodgment, their trades, occupations, the healthfulness of their workshops and the contents of the atmosphere they habitually breathe, and the prevalence of premature degeneration of the nervous and muscular systems by the exactions of piece-work employment. He shall obtain information in regard to the soundness of their food and purity of water-supply. He shall ascertain the ages at which the children of the poor are put to work, and its hindrance to their physical development, and their lack of common-school education. He shall seek through the the State boards of health, information of the hygienic state of public school buildings respecting their illumination, ventilation, and presence of noxious elements in the circumambient air. He shall seek information in regard to the pollution of streams and navigable waters and public and private wells. He shall attempt, through the co-operation of the authorized medical schools in all the States, to promote the most extended and thorough training of students in order to fit them for the responsible duties that devolve upon practitioners of medicine. He shall, whenever an epidemic disease is spreading abroad, or in any country which by commercial or other relations may endanger

the health of the inhabitants of the United States, have power to call a conference of the Surgeon-Generals of the Army, Navy and Marine Hospital Service, and the executive officer or officers of the various State boards of health throughout the country, to consider and advise with him in regard to the best methods to be pursued to protect the country against the invasion of any such epidemic disease, and the results of such conference shall be, by the Secretary of Public Health, communicated to the President and his Cabinet, for such action as they may deem wise and expedient.

Besides the reports of the state of the public health which he shall make from time to time, the Secretary shall make an annual report to Congress, with such recommendations as he may deem important to the public welfare, and the report, if ordered printed by Congress, shall be done under the direction of the department. The necessary printing of the department shall be done at the Government printing office upon the requisition of the Secretary, in the same manner and subject to the same provisions as that of other printing for the several departments of the Government.

SEC. 3. The President is authorized, when requested by the Secretary of Public Health, and when the same can be done without prejudice to the public service, to detail officers from the several departments of the Government for temporary duty, to act under the department of Public Health to carry out the provisions of this act, and such officers shall receive no additional compensation except for actual and necessary expenses incurred in the performance of such duties. When a detail of such officers can not be made, the Secretary, approved by the President, may employ such experts, and for such time and in such manner as the funds at the disposal of the department may warrant.

SEC. 4. That to defray the expenses in carrying out the provisions of this act, the sum of fifty thousand dollars (\$50,000) or as much thereof as may be necessary, is hereby appropriated to be disbursed with the approval of the President, under the Secretary of said department.

This act shall take effect sixty days after its passage, within which time the Secretary and Assistant-Secretary may be appointed.

OBLIGING.—Under ordinary conditions he was a man of prominence—but as he ascended the steps of his residence, very early in the morning, it was evident that he desired to be as much otherwise as possible. The cabby was lingering near to see that his charge was safely disposed of for the night. The door opened before the man on the steps could get his key to work, and he was met with the question: "John where have you been?"

(Silence)

"John, where *have* you been?"

He turned to descend the steps.

"Are you going to answer my question?"

"Yesh, my dear, I am. From my pers'nal knowledge I can't give the desired inf'mation, 'n I'm goin' to ask the man that drives the hack."—*Life*.

A FEW workingmen were discussing names of great scientists in Manchester. The name of Darwin cropped up. One of the company, less learned than the rest, said: "Darwen, I kna that place. A've been ther' monny a toime." "Get out, you fooil!" said another. "We're nut talking about the place called Darwen, but the mon. Hevn't ye nivver heerd o' Darwen? Why, if it hadn't been for Darwen we s'ould all hve been chatterin' monkeys, and nut gentlemen, like we are."—*Sheffield Telegraph*.

EXPERIMENTS have been tried with a view to ascertain if color has an effect on certain forms of disease. In making this test a number of smallpox patients were placed in a room to which only red light was admitted. The patients were for the most part those suffering from unusually severe attacks, and about half of them being unvaccinated children. In spite of the violent form of the malady, they all made speedy and safe recoveries, with very little fever and but few scars.—*New York Ledger*.

DOWN IN ARKANSAS.—"Well, Jim, how's the ague?" "Didn't I tell you about that? Why, I went into the old man Sharp's field one night about a week ago, and the old man got up and loaded his gun in the dark, 'n' cuss me if he didn't blow me full of two-grain quinine pills! I hain't had an ache nor-shake since."—*Life*.

SOCIETY REPORTS.

ORTHOPEDIC SECTION, COLLEGE OF PHYSICIANS OF PHILA.

March 16th, 1894.

[Stenographically Reported by C. C. Mapes, M. D.]

APPARATUS FOR PREVENTING AND CORRECTING DEFORMITIES OCCURRING AFTER EXCISION OF THE KNEE-JOINT.

DR. G. G. DAVIS: In the treatment of resection of the knee, flexion often occurs. It is difficult to get firm union in a straight line, and I believe this difficulty is not recognized sufficiently, and efficient means are not taken to provide against it. This is seen not only in private practice, but still more frequently in cases on which operation has been previously done, which afterwards apply at our surgical dispensaries. I am quite of the opinion that effective apparatus of some sort is necessary. I do not know what appliances the other members have used for the treatment of this tendency, but the apparatus which I have found to be the most efficacious has been as follows:

It consists of two iron sides which are joined at the ankle and have a stirrup beneath the foot; on the inner side the upright reaches to the perineum; on the outer, to above the trochanter.

The outer piece is fastened above to a metal hip band passing three-fourths around the pelvis, and lying, like a truss, just below the crests of the ilia. The posterior portion of the leg is supported by the heel in the shoe below and a piece of sole-leather above going around the posterior half of the thigh, from one side-iron to the other and touching the gluteo-femoral fold. Pressure is made on the front of the knee by a padded sole-leather knee-cap fastened to the inside iron by two straps, while its outer side, passing down between the limb and side-iron, is depressed by one or two screws fastened to a plate on the outer side-iron.

Antero-posterior displacement is met by turning the screws and thus forcing the knee backward.

Lateral displacement is met by bending the side-irons in or out, as required, by wrenches.

Any tendency to inversion or eversion is met by twisting the outside iron, just below the hip-joint with wrenches.

A soft leather hip band will not do as it will not fix the brace firmly enough in relation to the pelvis, to prevent rotation. In order to avoid dropping of the toe, while the patient is going around with a high shoe and crutches, the ankle-joint should be fixed by locking it

with a screw, which can be removed when the limb is used for walking.

I am averse to using any apparatus, like plaster-of-Paris, that cannot be altered, and conceals the part. I wish to see the limb every week so that if any tendency to deformity shows itself, it can be, at once, met by applying a positive pressure in the proper direction.

DISCUSSION.

DR. DEFOREST WILLARD: It seems to me questionable whether the plate upon the outer side will make as much pressure as the pad ordinarily placed in this position.

DR. G. G. DAVIS: It is simply a matter of taste. I prefer the screw arrangement because straps are apt to yield and become loose, while with it the parents can by turning the screw with a key, always keep the pressure firmly applied.

DR. DEFOREST WILLARD: I think a pad would prevent the joint from yielding outwardly and straps are more simple.

DR. H. Augustus Wilson presented a
CAST OF A LEG SHOWING RIGHT-ANGLE
FLEXION AND ROTATION AFTER
INCISION OF THE KNEE,

and said:

When I first saw this patient five weeks ago, at the Jefferson Hospital, he said he was fourteen years of age, and that nine years previously he was operated upon at St. Petersburg for what appeared to have been tubercular osteitis. The operation seems to have been excision of the knee-joint, and it occurred to me it might be of interest to the Section to study the case, showing such serious ultimate deformity. For six months the child walked with crutches, but on abandoning them the leg became bent, and at the end of a year the leg presented the appearance of right-angle flexion.

At the time I performed secondary operation, at the line of the original incision there was an immense amount of callus. In sawing I also found a large amount of callus thrown in the popliteal space. The curve which existed was very large in the upper end of the tibia and flexion seems to have occurred in the callus; the case illustrating one of the unfortunate results of not using

absolute fixation and crutches long enough. From the history of the case I judge that the condition of tubercular osteitis existed something like two years previous to the first operation. It is interesting also to know that at the upper end of the tibia, which was the original seat of the tubercular osteitis, there was a clearly marked cavity, and in the center a fibrous mass of cheesy consistency. I gouged this out and the patient did fairly well until the relighting of the tubercular inflammation. There has been primary union and the inflammation has subsided under the use of iodoform injections. The case is interesting in connection with a number of cases which I reported at the Academy of Surgery, in which flexion took place after incision. (*American Journal of Medical Sciences*, March, 1893).

DISCUSSION.

DR. F. X. DERCUM: As displacement occurs from active flexion of the muscles, would it not be a good plan to excise the joint and then tenotomize the muscles:

DR. G. G. DAVIS: Tenotomy of the muscles would obviate the tendency to deformity occurring immediately after operation, but would have no influence upon deformity occurring subsequently; that is to say, three months, six months, or a year afterwards, because union would have already occurred.

DR. H. AUGUSTUS WILSON: In the paper which I read before the Academy of Surgery I discussed the same question put by Dr. Dercum, and it was the opinion of a number of surgeons that in excision of the knee, tenotomy of the ham-string tendon should also be done, I believe however, that the more rational explanation is that the weight of the leg causes it to drop and it thereby produces flexion. In excision of the knee, an inch is a small amount of bone to remove, and it naturally shortens the action of the ham string tendons. In any event, if posterior displacement takes place, we would expect atrophy, and flexion of the muscles would follow. I do not know if these views are correct, but they are largely advocated.

The explanation of many of these cases of after deformities lies in the condition of the bones themselves. The worst deformities I have found have followed tuberculosis where previously there had been local tissue removed. The real trouble lies in the fact that the supporting apparatus is dispensed with too early. The cases are prone to deformity because the point of union is not true callus; it is of softer nature. I am fully of the opinion of Dr. Willard as to the necessity of using manual force. If the surgeon grasps the limb above and below the joint, there will be little likelihood of breaking any bones.

I have, on two occasions, broken the femur to overcome deformities at the knee, but it

was done purposely and in preference to performing osteotomy. Recently I have swathed the leg above and below the knee with steel rods so that all the force was applied to the knee. A steady application of force will very often lacerate the soft tissues and accomplish correction, whereas the sudden application of force is apt to break the leg at the point of the least resistance. There are many of these cases where there is slight flexion, and if it is impossible to get the limb absolutely straight, we must be content with such straightening as can be attained and repeat our efforts from time to time, usually with better functional results than could be obtained by any operative procedures.

DR. F. X. DERCUM: The question occurred to me whether, in cases of fracture occurring above the knee, a false joint ever ensues? And where does separation take place? Also I would like to ask if Koch lymph is at all used now?

DR. G. G. DAVIS: I would like to say a word about the use of the apparatus of Dr. Goldthwaithe which had been exhibited by Dr. Willard, because in it there is an attempt made to exert a force in a manner which has not yet been alluded to. Dr. Willard spoke of posterior luxation and said that in such cases he usually used excision. Ordinarily straightening of a joint is done by simple flexion and extension movements; not only can these movements be made with the apparatus shown to-night, but there is a direct pulling forward of the head of the tibia and fibula. If this apparatus will do that satisfactorily, it will obviate the necessity of resection in some of these cases of sub-luxation, and therefore I would like to hear the results of its trial.

DR. DEFOREST WILLARD: In regard to the employment of Koch's lymph, I have used it in a few cases during its popularity, but they did badly and suppuration quickly resulted; one knee I was obliged to excise and the patient died. I have not lost faith in its use for tuberculosis, but I think it was given to the profession before its properties were fully developed. Future generations will reap the benefit of what is now an experimental stage. It was launched on the world before it had been sufficiently tested and revulsion followed. Careful experimentation for five or ten years is yet necessary; therefore, while I have not lost faith in its ultimate results, I do not now employ it.

In regard to the fracture of the femur, I would say that I have never seen an injury from such fracture. It would be simply an osteotomy and not likely to give a false joint. In attempting to straighten by osteotomy, a knee which is at right angles, it would be possible not to have union strong enough for the transmission of force, and where I do not

get a perfectly straight limb by tenotomy and brisement force, I straighten it as far as possible and then let it rest for six, eight or ten weeks; then do osteotomy of the femur for correction of the remaining deformity. I do not excise under ten years, as I like to get as much growth as possible.

In regard to the question of excision I would say that it depends very largely upon the age of the patient. In young cases I advocate conservatism; in adults I employ more radical measures. As to the deformities which occur after excision, I think that nine cases out of ten are those which arise from too early use of the limb. Five per cent. of the cases relapse even though good union is obtained. I saw to-day a case which I sent home on crutches over a year ago. She returned all the better for the enforced rest, and there is not the slightest evidence of deformity. When I operate upon a joint I keep it at rest and protect it by an apparatus just as long as I feel any doubt as to its full recovery—six months, a year, two years after I feel it to be perfectly solid. I use an apparatus somewhat similar to the one described by Dr. Davis to-night, and its prolonged use is advisable.

As to the question raised by Dr. Dercum, I would say that in severe cases where the limb cannot be brought into a perfectly straight position, tenotomy is desirable. In all cases of deformity following knee-joint disease, it is a matter for consideration whether excision or forcible straightening shall be done. In my experience it is frequently better to forcibly straighten than to perform excision, especially if the subject be young. Within the last few years I have employed open incision of the semi-mem-

branosus and the semi-tendinosus and biceps tendons, and have then applied powerful force, even to an extreme degree, and I have never had rupture of the popliteal artery or veins; have never broken an epiphysis or fractured a femur. Should fracture result, it would make little difference; it is the same as an osteotomy. I do not, of course, undertake to forcibly straighten a knee where there is a large amount of tubercular deposit. In children it is a serious matter to excise a knee-joint, for when there is flexion to the amount of a right angle there will result a large amount of shortening.

The amount of force which can be applied by the hands without injury is very great. This winter I have straightened many limbs, which two years ago I should have treated by excision, and they are all doing well. I am thoroughly in favor of the absolute rest which is gained after an operation by the application of plaster cast. The muscles recognize the absolute fixation and as nothing is required of them, they rest accordingly.

I am of opinion that manual pressure is the best. I have here, however, an apparatus made by Dr. Goldthwaithe, of Boston, for the forcible straightening of knees, especially where there is posterior displacement. I have never used it as I received it only last night. Since I have investigated its possibilities, however, I believe I shall still continue to use my hands. The leverage is most powerful and in strong hands, I should fear serious injury from its use. In adults it is a difficult matter to exert sufficient force and Dr. Goldthwaithe gives a number of cases in which he has been successful with the use of this instrument.

THE LIBRARY TABLE.

BOOK REVIEWS.

A Text Book of the Diseases of Women, by Henry J. Garrigues, A. M., M. D., Professor of Obstetrics in the New York Post-Graduate Medical School and Hospital; Gynecologist to the German Dispensary in the City of New York; Consulting Obstetric Surgeon to the New York Maternity Hospital; Consulting Obstetrician to the New York Infant Asylum (resigned); ex-President of the German Medical Society, of the City of New York; Fellow of the American Gynecological Society; Fellow of the New York Academy of Medicine, etc. Containing three hundred and ten engravings and colored plates. Philadelphia: W. B. Saunders, 1894.

The author says in his preface that the work is for busy doctors and undergraduates, and that it is his intention to make it a book of quick reference for those who have not time for more elaborate reading, studying or hospital experience.

He forgot, however, in some of his chapters, the fact that many of his operations and procedures are fraught with imminent danger to those upon whom they are performed, and yet he raises no hand of warning, or caution to those who without training or experience may turn to his pages for information.

The chapter embracing electricity, for instance, is one that may cause some enthusiastic, but inexperienced man to do far more damage than he will be likely to do good. Electricity in gynecology by experts is considered questionable by many, and in the hands of the general practitioner and student, may do more mischief than can easily be repaired. Still in this volume there is much to be commended.

To one accustomed to gynecological work, the book will be valuable as giving many hints and suggestions—the various modes of

operating by different authors, and in many cases his own views and opinions, based on personal experience, which are sound, and up to the high water mark of the latest and most improved method of the best operators.

Another objection to the work is the failure of the author to give his own views and reasons on all subjects treated. For, wherever he has done so, there is proof of the soundest professional judgment and skill in his methods. Notwithstanding these defects, the book is one of the best now before the profession of the character aimed at by the author. It is well gotten up—the style easy and engaging. The illustrations are accurate and fully demonstrative of the ideas intended to be conveyed, and altogether it is a work that will find a welcome in the library of every physician who reads and studies the works of our best and most progressive men.

G. R. D.

Lectures on Auto-Intoxication in Disease, or Self-Poisoning of the Individual. By Ch. Bouchard, Professor of Pathology and Therapeutics, Member of the Academy of Medicine, and Physician to the Hôpital, Paris. Translated, with a preface, by Thomas Oliver, M. A., M. D., F. R. C. P., Professor of Physiology, University of Durham; Physician to the Royal Infirmary, Newcastle-upon-Tyne; and Examiner in Physiology, Conjoint Board of England. In one octavo volume; 302 pages. Extra cloth, \$1.75 net. Philadelphia: The F. A. Davis Co., Publishers, 1914 and 1916 Cherry street.

Saliva, bile, peptones, alkaloids of digestion and of intestinal putrefaction from normally present bacteria are constantly menacing the organism. Most of these poisons are destroyed by the liver. The antitoxic action of the liver is shown by trituration of an otherwise fatal dose of nicotine with fresh liver and injection of the filtrate into an animal which manifests few serious symptoms. Trituration with muscular tissue has no such protective result.

The author has little faith in the vicarious action of the skin and intestine in renal insufficiency since the perspiration and intestinal juice remove only thirty centigrams of urea per liter, the proportion present in the blood plasma.

The author shows experimentally that fresh, healthy urine is toxic, but no one of its ingredients gives correspondingly toxic results. Urea is fatal only when ten times as much has been injected into the circulation as is found usually in the blood of persons dead of "uremia."

Bouchard's treatment of typhoid is as follows: (a) fifteen grams of magnesium sulphate every three days; (b) for four consecutive days, twenty hourly doses of two centigrams of calomel (as antiseptic); (c) fifteen c. c. (tablespoonful) every two hours of the following nutrient and antiseptic paste—vegetable charcoal, 100 grams; iodoform, one gram; naphthalin, five grams; peptone, fifty grams; glycerin, two hundred grams; (d) injection morning and evening of 500 c. c. of a 1 per mille solution of carbolic acid; (e) eight baths daily, the water being originally 2° C.

(3.6° F.) below the body temperature, and reduced about 1° F. in five minutes, never below 86° F. The cooling process requires an hour or more. If the temperature is high, large doses of quinine are given every three days; (f) a diet of broth with barley, lemonade and the paste already mentioned. Bouchard's mortality rate has been reduced from 25 per cent. to 7 per cent. by this method.

The author emphasizes in detail the importance of stimulating the emunctories and refers to bleeding as a rapid means of elimination of toxins in anuria.

No review can do justice to this work. It is matter for slow reading and assimilation. There is almost no waste of words nor literary padding. In a sense, one is disappointed with the book, as with every other book which contains instead of brilliant generalizations, the results of carefully proven investigations.

A. L. B.

Congenital Affections of the Heart, by George Carpenter, M. D., Lond. Published by John Bale & Sons, London, W., 1894.

This little brochure of 102 pages gives a very excellent resume of the congenital affections of the heart, and well repays careful reading. The author points out clearly the occurrence of endocarditis rheumatica prior to the age of four months, and refers in an interesting manner to the difficulties of diagnosis at this early age. The various abnormalities of the valves are arranged in tabular form on page 46. In 181 cases of various congenital cardiac affections collected by Peacock, 119 showed malformation of the pulmonary orifice and the cornu arteriosus.

Reference is made to the infrequency of malformations of the arteries, and that the aorta occasionally forms a double tube surrounding the trachea, and that coronary arteries may originate high up in the aortic arch, or be given off by some one of the vessels. In somewhat similar manner two ascending or two descending venæ cavae are occasionally met with.

The chapter on malformations of the heart is interesting, and, in addition to the transposition of the heart and viscera, reference is made to cases where the heart is situated wholly or in part external to the thorax, or in association with protruded abdominal viscera, and one case is recorded where the heart was found situated near the right kidney.

That these cases also occur in animals is shown by an autopsy made by Professor Harger upon a cow, which had been under observation at the Veterinary Department of the University of Pennsylvania for more than a year. The heart was in the neck, where it had been palpated and auscultated during life.

This book, though small, is full of information, and the twenty-two cases reported are of special value.

J. D.

Clinical Lectures on Pediatrics. Delivered in the Vanderbilt Clinic during the session of 1892-93, by A. Jacobi, M. D., Clinical Professor of the Diseases of Children in the College of Physicians and Surgeons of New York, etc., etc. Baily and Fairchild, 1893.

This modest little volume has found its way to my table, and also to my understanding. It is unpretentious in its salutatory, and unambitious in its design, but nevertheless it is far more than the author claims for it. If its pages are opened even when one is tired and sleepy, interest will soon be awakened and the book is sure to be closed reluctantly.

The subjects treated of are such as come to the doctor from day to day, and the clear and well-defined manner in which the author goes into each case as it comes before him is refreshing and engaging, and withal, eminently instructive.

To the busy doctor who has time only to cull a little here and there—I will say he can find here, within the pages of this little volume, more than in many far more pretentious in their make-up. I welcome it to my table and shall often enjoy its perusal.

G. R. D.

The discovery of Modern Anæsthesia. By whom was it made? A brief statement of facts by Dr. Laird W. Nevins. Published by Geo. W. Nevins, Cooper Institute, New York, 1894.

The most important and valuable discovery of the present century is that of anæsthesia.

There are four claimants for the honor of this discovery. For many years our leading

surgical and dental journals were filled with exciting and bitter discussions as to whom the honor belonged; each advocating the claims of this or that individual; and this discussion is now being revived by many of our professional journals.

Dr. L. W. Nevins has written a small volume on the subject, in which he does not advocate the claims of any one of the four individuals named, but has gathered all the facts possible on the subject, and, with an even hand has balanced and weighed the degree of merit belonging to each. He has, in an interesting way, presented the only free, impartial and unbiased statement on the subject which I have ever seen.

The book contains fine portraits of the four claimants named, with a biographical sketch of each, and engravings of the monuments erected to their memory; also a likeness of the two dentists who were incidentally connected with the discovery claimed for Dr. Wells; and a fine portrait of Sir James Y. Simpson, who discovered the anæsthetic powers of chloroform.

All these portraits, together with an enlarged engraving of the Ether Monument in the Public Garden at Boston, have been attractively arranged and produced on a large heavy sheet of paper, 19x24 inches, intended for framing.

The book and the picture should go together; one for the office-wall, the other for the office-table or library. Considering the insignificant price (\$1.50) no physician of note can afford to be without them.

G. Q. C.

CURRENT LITERATURE REVIEWED.

IN CHARGE OF ELLISTON J. MORRIS, M. D.

THE AMERICAN JOURNAL OF OBSTETRICS for April. Dr. Charles P. Noble contributes a paper on

Acute Puerperal Cellulitis and True Pelvic Abscess.

He reports several cases as demonstrating the following:

1. That in the puerperal state pelvic cellulitis and true pelvic abscess occur as the result of septic inflammation.
2. That inflammation may spread from the vagina or uterus along the pelvic lymphatics to the broad ligaments without involving the Fallopian tubes.
3. That peritonitis can be set up by the spread of inflammation from the broad ligaments to the peritoneum without involvement of the Fallopian tubes.
4. That very extensive pelvic exudate and intra-peritoneal adhesions can be absorbed.

The author believes that pelvic cellulitis and true pelvic abscess are comparatively rare conditions, and that the usual variety of pelvic inflammation is a salpingo-peritonitis. He has not met with the pelvic cellulitis except in the puerperal state, and be-

lieves that it does not occur except as a result of infected wounds of the vagina and perineum.

The Aseptic Dressing of the Umbilical Stump

is the title of a paper by Dr. Joseph Eve Allen. In it the author urges the application of the principles of aseptic surgery to the care of the umbilical cord, reviewing the opinions of various authors as to the dangers of infection. He declares that the process of separation of the cord is one of dessication and not one of supuration and ulceration. Whenever, therefore, putrefaction, or ulceration appears it is proof positive that the dressing has not been aseptic. The writer's method is to secure the cord temporarily by means of a clamp or ligature till after the child is washed. After this the attendant should make his hands perfectly aseptic by repeated washings with soap and water, and scrubbing with a nail brush, and then finishing with a 1:1000 bichloride solution. The funis and abdomen of the child should be wiped off also with this bichloride solution.

The cord is again cut about an inch and a half from the abdomen and the gelatinous

material pressed out. The bichloride solution must then be again used freely, after which the funis is tied with an elastic silk ligature which has been sterilized by first boiling for half an hour in a 1: 500 bichloride solution and then immersing in a solution of iodoform in sulphuric ether 1: 50. These ligatures after having thus been prepared, should be cut into lengths of about four inches and kept dry in a clean wide-mouthed jar till used. The cut end of the cord should be touched with a bichloride tablet.

The cord is then enveloped in a piece of sterilized gauze, not sublimated, which has previously been saturated with glycerine. Another pad of sterilized gauze saturated with glycerine is then placed over it and the whole held in place by a sterilized flannel bandage. The gauze used in the dressings should not be sublimated on account of the eczema produced by long contact of corrosive sublimate with the skin. Chemically pure glycerine is especially indicated as an application to the umbilical stump, for the reason that it is bland, unirritating and antiseptic, and has great hygroscopic properties, thus hastening the process of desiccation. Cords treated in this way often fall within three days.

In regard to the after-treatment, until the funis separates the bandage should be opened twice daily and the dressings saturated with glycerine. The top pad should be removed daily and replaced by a fresh piece of sterilized gauze. Whenever soiled the flannel bandage should be changed. After the cord falls the umbilical fossa must be filled with aristol, a dry pad of gauze placed over it, and the bandage reapplied. Repeated microscopic examinations of the debris of cords that were treated as above failed to show the presence of any form of microbe.

When the umbilicus ulcerates or becomes infected, the best treatment to be pursued is repeated irrigations with peroxide of hydrogen or a 1: 500 bichloride solution, after which the stick nitrate of silver is to be thoroughly applied, the parts thickly dusted with aristol and covered with a sterilized gauze pad and flannel bandage.

Aseptic precautions should be observed at all times, but especially during the prevalence of epidemics of zymotic diseases, and when the infant is exposed to a contaminated atmosphere such as exists in crowded tenements and hospital wards.

Dr. T. Ridgway Barker describes

An Ideal Napkin for the Puerperal Woman.

The napkin is made from cheese cloth and cotton, both baked so as to be rendered sterile. A square is cut from the cheese cloth, nine by nine inches, folded over, making it four and a half inches wide; a piece of absorbent cotton is cut just the same size (four and a half by nine inches), and placed between the folds of the cheese cloth. In this manner is prepared in the simplest possible way a compress which is readily applied and needs nothing to hold it in its place, so closely does it adhere to the skin when the parturient occupies the semi-recumbent position. Before applying a fresh dressing the external genitalia and the mouth of the vagina should be

bathed with warm water. The patient is given four warm vaginal douches, by means of a fountain syringe, a day during the first week, and thereafter two a day. These serve a useful purpose in keeping up drainage. Should any odor be noticeable the compresses may be dusted with powdered boric acid. The addition of a drachm or more of compound spirit of lavender to the water for bathing adds materially to the comfort of the patient.

Dr. T. J. Crofford contributes a paper entitled

My Experience with Tubercular Peritonitis.

The author reports a number of operations for the relief of the disease, as the result of which he comes to the following conclusions:

1. Tubercular peritonitis is an operable disease.
2. The immediate danger from the operation is not materially influenced by the character of the inflammation.
3. An early operation is of the greatest value.
4. The chronic or slowly progressing variety offers the best indications for surgical interference.
5. When the primary deposit is in the tubes, an early salpingotomy will cure the disease.
6. Operations later in the disease will frequently prolong life and possibly cure.

Dr. J. T. Binkley discusses,

The Relations between Salpingitis and Appendicitis Vermiformis,

reporting a number of cases where abdominal section was performed for tubal and ovarian disease and in which the appendix was found involved. The author divides these cases into two classes: First, those in which the appendix is infected directly or indirectly by the tube; and second, those in which the appendix plants the infection in the tube. In the first class we have the enlarged and inflamed tube presenting an attractive surface to which the wandering appendix may become attached. As the result of this attachment there may occur a direct infection of the appendix by the transmission of microbes directly through the walls of the tube and the appendix, or the appendix may become infected indirectly by being bent upon itself, or by having exudations thrown about it, causing constricting bands. These bands and bends produce obstruction, and the obstruction causes foreign particles to be retained, and salpingitis naturally results.

The lessons to be learned are: First, that greater care must be exercised in freeing the uterine appendages from adhesions on the right side than on the left; second, that all detached tissue on the right side should be carefully examined with the expectation of finding an adherent appendix, which, if found, should be removed. He strongly advises its removal in every instance where it has once been adherent, because of its tendency to become adherent to various points on the peritoneum.

The author suggests that this body may be responsible for a large percentage of the colic

and reflected pains that follow laparotomies.

The author believes that the chief cause of the downward position of the appendix in women is the shape of the pelvis, which is broad and flaring, and does not have the forward ridge or angle of the pelvic brim under the head of the colon which is found in men. The other factors also favor this position of the appendix: first, the corset, which tends to force it down; and, second, childbirth, which relaxes peritoneal attachments.

Dr. Edward E. Morse discusses, "The Use of Certain Antiseptics in Midwifery," advocating the use of creolin and lysol as being free from poisonous and irritating qualities, and at the same time possessing efficient germicidal properties. He advises the use of a 1:500 solution of the bichloride of mercury for the hands, followed by their immersion in creolin or lysol solution. By this arrangement the maternal soft parts are quite protected from contact with the corrosive, and the danger arising from such use avoided.

Dr. F. Byron Robinson describes

A New Method of Treatment of Uterine Myoma without Removal of the Uterus.

by litigation of the ovarian and uterine arteries. The author describes a case in which, through an abdominal opening, he ligated the ovarian artery and then applied two ligatures to each uterine artery for about two-thirds of the distance from the tube to the internal os. He did not remove the ovaries and tubes. The patient made a good recovery; an abdominal fistula remained for several weeks.

Three months after the operation the uterus was about two-thirds its former size, and three months later it was one-half its original size. For the past six months the atrophy has been continuous. The patient has had slight hemorrhages but considers herself well. The author has performed the operation three times, and so far with good results. Great care and judgment must be exercised, in the cutting off of the blood supply of the uterus, not to go beyond the limit of safety as regards gangrene. The minimum amount of blood supply necessary for the life of the uterus cannot be stated, but the author has demonstrated that the ovarian artery and the uterine artery for two-thirds of the distance from the tube to the internal os can be safely ligated.

Dr. George J. Lochboehler presents the report of "A Case of Prolonged Prolapsus Funis in Twin Pregnancy." The first child was born alive after the funis had been prolapsed for two hours and a quarter. The second child was born alive a few minutes later. The author believes that this is the greatest length of time for a living child to be born when the cord has been prolapsed.

The remaining papers in this issue are: "Note on Oligohydramnion" by Dr. W. W. Jaggard. There was absolutely no liquor amnii the child being surrounded by a tough membrane and covered with a thick layer of vernix caseosa and a thick, viscid, gelatinous substance. The child was deformed and lived only an hour. The paper is illustrated with photographs of the child.

"Urethral Caruncle" by Dr. Edward Nicholas Liell.

THE MEDICAL CHRONICLE.

of Manchester, Eng., for March. Roger Williams, F. R. C. S., continues his paper. on

Sarcoma of the Breast.

Pure Sarcomata, he says, seldom originate such large tumors as the adenoid variety though the main features of the disease are very similar to those met with in the latter variety.

In regard to the so-called alveolar variety he states that recent investigation have shown that these growths arise from the endothelial cells of the adventitia of the lymph spaces. If we accept this view of their origin, they should be classed with the cancers, for embryological researches have shown, that the endothelium is a derivative of the archiblast and not of the parablast, to which its origin has hitherto generally been ascribed. There are many facts in the morphology and clinical history of the disease that are best explained from this standpoint. In as much as these growths are highly malignant, they should be freely extirpated, as soon as possible, together with the breast and overlying skin; and the axilla should be cleared as well in every case.

Any form of melanatic neoplasia of the breast is of extreme rarity. The author's table of 2,397 consecutive primary neoplasms of the female breast does not contain a single instance. It appears, however, to be rather less exceptional in the male breast, for of 100 primary cancers of this part collected by the author three were of the melanotic variety.

Myxoma is a rare form of mammary neoplasm, since of 2,397 female cases there were only two examples of it.

In their main features myxomata of the breast closely resemble sarcomata, of which they are evidently but a sub-variety. The chief pathological consequence of the histological diversity subsisting between, these two forms of the disease is, that the myxomata rarely originate metastases, and that they recur locally after removal much less frequently than the sarcomata. Mammary myxomata acquire to be treated in accordance with the same principles as mammary sarcomata. The prognosis is, however, more favorable, statistics showing that local recurrences after removal are met with only in 16.6 per cent. of all cases.

The author divides Keloid into two varieties: (1) the commonest form, in which the disease usually presents as an oblong, flattened outgrowth from the derma, of smooth, purplish-red aspect, much resembling an overgrown irritated scar. When the question of treatment is under consideration, it is well to remember that, having attained a certain size, the disease often ceases to increase. Moreover, under the influence of soothing applications, it sometimes manifests a tendency to spontaneous resolution. Consequently, operative interference, caustic and irritant applications should be sedulously avoided. The best treatment is to cover up the lesion with belladonna, salicylic acid, or ammoniacum cum hydrargyro plaster.

(2) The rare form of the disease is characterized by the formation in the derma of whitish, ivory-like, slightly elevated, indurated areas,

which feel firm and elastic, each being surrounded by a faint, lilac-colored vascular areola. It seems in reality to be a localized scleroderma. If left alone, it generally progresses, but very slowly; and after a time retrogressive changes sometimes supervene spontaneously.

In regard to sarcoma of the male breast, the author states that it may be inferred that all the varieties met with in the female breast may also be found in it, although, of course, such occurrences are of great variety. Most of the recorded cases known to him have been pure sarcomata. In 2,432 cases of primary breast neoplasms analysed by him 99 of which were sarcomatous, there were 2 instances of myxoma of the male breast. A case of mammary adeno-myxoma in a

man has been recorded by Obolensky.

Appended to the paper are reports of cases of the various forms of sarcomata described.

In the "Clinic" department, R. T. Williamson, M. D. describes "The Early Pathological changes in Disseminated Sclerosis," reporting a case. The paper is illustrated with wood cuts of sections of softened patches in the grey matter of the cord, and sections of blood vessels.

R. T. Williamson, M. D., reports "A Case of Cerebral Abscess secondary to Pulmonary Disease."

Robert E. Lord, M. D., reports "Two cases illustrating the Difficulties in the Diagnosis Ulcer." Dr. Lloyd Roberts, M. D. continues his paper entitled, "Further Cases of Ovarian Cystic Tumors" reporting a number of cases.

NEWS AND MISCELLANY.

Pennsylvania State Medical Society.

The following is a list of the addresses and papers which have been appointed to be read or have been secured by the Committee on Scientific business for the meeting of the Pennsylvania State Medical Society, to be held in Philadelphia, May 15 to 18, inclusive.

Annual Addresses. Medicine, W. S. Foster, Pittsburg; Surgery, G. D. Nutt, Williamsport; Obstetrics, E. E. Montgomery, Philadelphia; Mental Disorders, T. M. T. McKennan, Pittsburg; Hygiene, J. H. Wilson, Beaver; Ophthalmology, Geo. E. de Schweinitz, Philadelphia.

Medical Papers. Charles W. Dulles, Hydrophobia; H. F. Slifer, Dietetics; John M. Batten, Unique Cases in Practice; W. C. Hoppolter, Therapeutics of Whooping Cough; William P. Munn, (Denver, Col.) Colorado Climate for Consumptives; R. G. Curtin, Subcutaneous Emphysema; John Aulde, Diarrhoeal Diseases; Wharton Sinkler, Acroparesthesia; Adolph Koenig, Typhoid Fever; W. E. Hughes, Tapping of Abdominal Effusions as a Therapeutic Measure.

Surgical. E. Laplace, Radical Cure for Hernia; F. LeMoyné, Modification of Pirogoff's Amputation; X. O. Werder, Surgery of Gall-bladder; T. S. K. Morton, Section of Tendo Achillis in Fractures and Dislocations; John B. Deaver, Appendicitis; G. G. Davis, Amputation near the ankle; O. Horwitz, Stricture of the Urethra; Charles W. Dulles, Treatment of Fractures at the lower end of the Humerus; J. M. Barton, Acute Intestinal Obstruction; Edward Martin, Ocular Exploration of the Bladder and Urethra; John B. Roberts, Thyroidectomy.

Obstetrical and Gynecological. J. C. McAllister, Puerperal Eclampsia; Charles P. Noble, Uterine Fibroids; J. M. Baldy, Acute Endometritis; Anna M. Fullerton, Studies in Obstetrics and Gynecology; Horace Fox, Symphyseotomy and other Procedures; B. F. Baer, Cholecystoenterostomy.

Eye and Ear. S. L. Ziegler, Corneal Ulcers; S. Mac Cuen Smith, Diseases of the Ear; H. F. Hansell, Surgical Treatment of Internal Strabismus; Charles H. Thomas, Eye Strain; Charles Burnett, Tympanic

Vertigo; Louis F. Lautenbach, Massage Methods in the Relief of Tinnitus; L. Webster Fox, Capsulotomy after removal of Cataract.

Nose and Throat. W. H. Daly, Intranasal Surgery; William R. Hoch, Nasopharyngeal Catarrh.

Skin. J. V. Shoemaker, Clinical Observations; M. B. Hartzell, Epithelioma of the Skin.

Tuberculosis. Arrangements have been made for a discussion on Medical and Surgical Tuberculosis, and papers will be read on Medical Tuberculosis as follows: S. S. Cohen, Curability and Treatment; J. M. Taylor, Physical Phases; A. M. Cooper, Contagiousness; L. F. Flick, Prophylaxis; Hugh Hamilton, Medical Tuberculosis; T. J. Mays, Strychnine Treatment of Pulmonary Consumption; D. Longaker, Case of Tubercular Meningitis.

The following members of the Society have announced their wish to take part in the discussion on Medical Tuberculosis: J. H. Musser, W. B. Ulrich, J. C. Wilson, J. S. Cohen, W. E. Hughes.

The following papers on Surgical Tuberculosis will be read:—C. B. Penrose, Tuberculosis of the Fallopian Tubes; H. A. Wilson, Treatment of Tubercular Caries of the Spine; E. B. Haworth, Case of Tuberculosis of the Knee-joint.

The following members will take part in the discussion of Surgical Tuberculosis:—J. B. Roberts, De F. Willard, G. G. Davis, J. K. Young, J. M. Barton, B. F. Baer.

Tubercular Manifestations of the Skin will be discussed by H. W. Stelwagon.

Besides these, the following papers on general subjects are announced:—Hildegard H. Longsdorff, Christian Science and the Medical Profession; S. S. Cohen, Should the Journal of the American Medical Association be used to Promote Quackery; E. Jackson, Reasons for the Revision of the Code of Ethics; O. H. Allis, Cramming in Medical Schools.

The Committee has obtained the consent of Dr. Benjamin Sharp, of the Academy of Natural Sciences, to exhibit to the Society his beautiful series of lantern pictures of the Leper Settlement at Molokai, Sandwich Islands, and of lepers in various stages of the disease.